



ControlLogix™ Controller Revision 7

Cat. No. 1756-L55, -L55M13, -L55M14, -L55M16

IMPORTANT

If you have a 1756-L55 controller, you must install a memory board. Install either a 1756-M13, -M14, or -M16 memory board. For more information, see the *ControlLogix Memory Board Installation Instructions*, publication 1756-IN033.

Introduction

These release notes describe the enhancements, changes, corrected anomalies, or restrictions of the following ControlLogix controller:

Controller:	Catalog number:	Firmware revision:
Logix5555™	1756-L55Mxx	7.10 or later

To use this firmware revision, update your system as follows:

Update this software or firmware:	To this revision or greater:
RSLinx™ software	2.20.02
RSLogix 5000™ software	7.00.00
RSNetWorx™ for ControlNet software	3.00.00
RSNetWorx for DeviceNet software	2.22.18
1756-M02AE module firmware	3.8

Enhancements

This revision lets you perform the following actions:

- communicate on a scheduled basis over an Ethernet™ network
 - monitor and control 1756 I/O modules
 - produce and consume tags with other ControlLogix controllers

You must have a 1756-ENET/B module in the local and remote chassis. If you have 1756-ENET/A modules, update them to revision 2.x firmware.

- use the Synchronous Copy File (CPS) instruction to maintain data integrity during a copy operation
 - The CPS instruction prevents other controller actions, such as I/O updates, from interrupting the copy operation and changing the source or destination data.
- force the value of a produced or consumed tag
- select a baud of 38.4K for DF1 communications
- make the source code of a routine unavailable for view, edit, print, and export
- use multiple programs without a significant increase in overhead time of the controller
 - At the end of every program, the controller *no longer* updates digital output modules that are in the local chassis.
 - The controller now sends local digital output values at the end of every task.
 - For those projects with multiple programs, this reduces the overhead associated with locating and servicing the local digital outputs.
 - Digital outputs are also sent to the backplane at the RPI, as in previous revisions.

Changes

This revision requires more memory than previous revisions:

- The addition of a new programming language, routine source protection, and memory management enhancements has increased the size of routines and tags.
- 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 worksheet:

If you currently have this revision of firmware:	Then:
5.x or earlier	See Table 1 on page 3
6.x	See Table 2 on page 4

Table 1 Additional memory to upgrade from revision 5.x or earlier to revision 7.x

Component			Number in your project	Increase per instance	Total (number x increase)
routines				116 bytes	
base tags				24 bytes	
alias tags				16 bytes	
produced and consumed tags	Data type	Bytes per tag			
	DINT	4		12 bytes	
	REAL	4		12 bytes	
				3 x bytes per tag	
				3 x bytes per tag	
				3 x bytes per tag	
				3 x bytes per tag	
				Total additional bytes	

Table 2 Additional memory to upgrade from revision 6.x to revision 7.x

Component		Number in your project	Increase per instance	Total (number x increase)
routines			68 bytes	
base tags			24 bytes	
alias tags			16 bytes	
produced and consumed tags	Data type	Bytes per tag		
	DINT	4	12 bytes	
	REAL	4	12 bytes	
			3 x bytes per tag	
			3 x bytes per tag	
			3 x bytes per tag	
			3 x bytes per tag	
Total additional bytes				

Corrected Anomalies

This revision corrects these anomalies:

- The controller occasionally failed a parity check. This revision lets the controller recover from some parity errors without user intervention.
- If the total number of messages coming in or going out the serial port was more than 12, the controller became inoperative and its OK LED displayed solid red.
- Using an SSV instruction on a 1756-ENET module caused the module to be unable to reconnect. Error messages included “Link address not available” and “out of buffer resources.” After the SSV instruction was activated, the IP address of the module would not upload with the project and had to be re-entered.

Restrictions

This revision has the following restrictions:

- DH-485 communication is *not* available. It will be available in a future revision.
- An interruption in power to a ControlLogix chassis might produce a non-recoverable fault in a 1756-M02AE analog/encoder servo module when power is restored. If this occurs:
 - The OK LED will be solid red and the module will be inoperative.
 - The connection to the ControlLogix controller will be faulted. If the connection is configured to produce a major fault when it fails, the ControlLogix controller will fault upon returning to Run mode.

To clear the fault of the servo module, cycle power to the chassis or remove and re-insert the servo module.

The 1756-L55M16 controller has the following restrictions:

- You *cannot* download a project that has more than 3.5M bytes of tags to a 1756-L55M16 controller. During the download, RSLogix 5000 software indicates that the controller is out of memory.

To stay within the 3.5M byte limit, take this precaution:

- As you create tags, periodically download the project. If the project successfully downloads, then you know you are within the 3.5M byte limit.
- You *cannot* download a project that has very large routines. During the download, RSLogix 5000 software indicates that the controller is out of memory. (While online, you may be able to create a very large routine, but once offline you will be unable to download the project.)

To avoid creating routines that are too large, take these precautions:

- Limit the number of rungs in a routine to less than 2500. (Use a series of smaller routines.)
- If you are entering a large number of rungs in a routine, do this offline.
- As you enter rungs, periodically download the project. If the project successfully downloads, then your routines are within limits.

Rockwell Automation Support

Rockwell Automation tests all of our products to ensure that they are fully operational when shipped from the manufacturing facility.

If you are experiencing installation or startup problems, please review the troubleshooting information contained in this publication first. If you need technical assistance to get your module up and running, please contact Customer Support (see the table below); our trained technical specialists are available to help.

If the product is not functioning and needs to be returned, contact your distributor. You must provide a Customer Support case number to your distributor in order to complete the return process.

Phone	United States/Canada	1.440.646.5800
	Outside United States/Canada	You can access the phone number for your country via the Internet: 1. Go to http://support.rockwellautomation.com/ 2. Under <i>Contacting Customer Support</i> and Other Countries, click on <i>Click here</i>
Internet	Worldwide	Go to http://support.rockwellautomation.com/

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846