



ControlLogix™ Controller

Cat. No. 1756-L1, -L1M1, -L1M2, -L1M3, -L53

Introduction

IMPORTANT

When you use the ControlFLASH tool to upgrade your controller, you may have to click the *Show All* button to see this revision of firmware.

These release notes describe the enhancements, changes, and corrected anomalies of Logix5550 and Logix5553 controllers. These release notes correspond to the following revisions of controllers:

Controller:	Catalog number:	Firmware revision:
Logix5550™	1756-L1, -L1Mx	5.05
Logix5553™	1756-L53	5.05

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

Update this software or firmware:	To this revision or greater:
RSLinx™ software	2.20
RSLogix 5000™ software	5.02
RSNetWorx™ for ControlNet software	2.22
1756-M02AE module firmware	4.16
1756-M08SE module firmware	1.19
1394 Digital SERCOS™ drive firmware	1.37

Enhancements

This revision lets you use Logix5550 or Logix5553 controllers and the 1756-M08SE motion module to control 1394 Digital SERCOS™ drives.

This revision also has the following enhancements to Logix5550 and Logix5553 controllers:

- function block instructions, which let you program your application using function block diagrams:
 - 37 ladder instructions are now available as function block instructions.
 - 42 new function blocks are available for process and drive applications.
- MSG instruction:
 - You can use DNS names and port numbers to specify the destination of a message.

Changes

This revision of Logix5550 and Logix5553 controllers requires more time to execute various motion actions. See Table A on page 3.

Table A Comparison of the motion execution times of non-SERCOS revisions of the firmware to this SERCOS revision:

Motion state or action (Δ = per axis)		Logix5550 average execution time (μ s)		Logix5553 average execution time (μ s)	
		7.10	5.05	6.11	5.05
motion task overhead		157	190	135	130
servo/servo drive axis Δ ⁽¹⁾		211	340	127	210
virtual axis Δ		203	350	114	205
consumed axis Δ ⁽²⁾		498	770	560	480
servo on Δ		55	60	28	30
trap move Δ		199	280	124	135
S-curve move Δ		321	400	198	210
trap jog Δ		180	250	114	130
S-curve jog Δ		297	380	186	200
gearing	actual Δ	255	310	153	170
	clutch Δ	138	120	79	80
gearing	command Δ	96	145	73	70
	clutch Δ	112	145	79	85
position camming (actual, linear) Δ		462	450	231	220
position camming (actual, cubic) Δ		514	520	292	270
position camming (command, linear) Δ		290	280	153	130
position camming (command, cubic) Δ		377	410	202	160
time camming (linear) Δ		195	200	116	105
time camming (cubic) Δ		296	300	170	150

⁽¹⁾ The incremental execution time of a servo or servo drive axis is significantly greater for this SERCOS feature revision than it is in prior releases that do not support the SERCOS features. To accommodate the additional execution time, you may have to increase the course update period.

⁽²⁾ This value is worst case (producer/consumer update ratio = 2/3). To reduce the time, use a consumer coarse update period that is an integer multiple of the producer coarse update period (e.g., 2/4).

Corrected Anomalies

This revision corrects these anomalies in Logix5550 and Logix5553 controllers:

- For a rack-optimized connection to a 1756 or 1794 input module, if you forced a slot status bit to 1, unexpected operation might have occurred. The rack image remained connected, but the module that was associated with the slot status bit disconnected, faulted, and stopped being updated.
- While online to a controller that was in the Remote Run mode, the following types of edits to a LBL instruction caused a major fault:
 - moving a LBL to a different rung
 - entering an existing LBL on a new rung and deleting the rung that previously contained the LBL

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

Publication 1756-RN574A-EN-P - February 2001

PN 957491-88

© 2001 Rockwell International Corporation. Printed in the U.S.A.