

MicroLogix 1200 and MicroLogix 1500 Programmable Controllers Firmware

Bulletin 1762 and 1764

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About This Publication

These release notes for MicroLogix 1200 and MicroLogix 1500 controllers with Series C FRN 14 operating system firmware supplement the existing documentation supplied with your product.

Keep this document with your MicroLogix 1200 and MicroLogix 1500 Programmable Controllers Instruction Set Reference Manual, publication number [1762-RM001](#).

New Features and Enhancements

MicroLogix 1200 New Features and Enhancements

Catalog Number	OS ⁽¹⁾ Series Letter	OS Revision Letter	Firmware Revision	Release Date	Enhancement
1762-L24AWA 1762-L24BWA 1762-L40AWA 1762-L40BWA	A	A	FRN 1	March 2000	Initial product release.
	A	B	FRN 2	May 2000	The trim pots (trimming potentiometers) on the controller operated in reverse of the ladder logic is now corrected.
	B	A	FRN 3	November 2000	This revision features: <ul style="list-style-type: none"> • Full ASCII (read/write) • PTO Controlled Stop • PWM Ramping • RTC and String Messaging • Static Data File Protection • Comms Reset Pushbutton Bit
1762-L24BXB 1762-L40BXB	B	A	FRN 3	November 2000	Initial product release. Supports all the features listed above for the 1762-L24xWA and 1762-L40xWA controllers.
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	A	FRN 4 ⁽²⁾	June 2001	This revision features: <ul style="list-style-type: none"> • Floating Point (F) Data File for use with: • compare instructions (EQU, GEO, GRT, LEQ, LES, LIM, NEQ); math instructions (ABS, ADD, CLR, DIV, MUL, NEG, SQR, SUB); move instruction (MOV); file instructions (CPW, FLL); and the message (MSG) instruction • Programmable Limit Switch (PLS) File for use with HSC • RTA - Real Time Clock Adjust • GCD - Gray Code • CPW - Copy Word • ABS - Absolute Value

MicroLogix 1200 New Features and Enhancements

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware Revision	Release Date	Enhancement
	C	B	FRN 5 ⁽³⁾	March 2002	Internal firmware revision; no user functionality change.
	C	C	FRN 6 ⁽³⁾	September 2002	This revision features: <ul style="list-style-type: none"> • The Floating Point (F) Data File can now be used with the Scale with Parameters (SCP) • ModBus Memory Mapping Enhancements
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	D	FRN 7	April 2003	This revision features: <ul style="list-style-type: none"> • DF1 Half-Duplex Master Driver • DF1 Radio Modem Driver • Enhanced DF1 Broadcast Support • ASCII Clear Buffer (ACL) instruction enhancement
	C	E	FRN8	November 2003	This revision features: <ul style="list-style-type: none"> • Modbus Master Protocol • PTO Independent Accel/Decel profiles
1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	E	FRN8	March 2004	This revision features additional communications port called the programmer/HMI port.
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB 1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	F	FRN 9	May 2004	<ul style="list-style-type: none"> • Fixed reply of BCC for DF1-Master transmissions • Fixed delay time for DF1-Master transmissions with Half-duplex hand shaking turned on • Supported FUJITSU's and STM's Flash Memory.

MicroLogix 1200 New Features and Enhancements

Catalog Number	OS ⁽¹⁾ Series Letter	OS Revision Letter	Firmware Revision	Release Date	Enhancement
	C	G	FRN 10	January 2005	Fixed defects for abnormal shutdown problem for ML1200/ML1210. When EPhardFault() function is called from OS firmware, ML1200/ML1210 does not shut down properly. The reason is that the pointer UfdlProgramFlashPtr in BOOT firmware was overwritten by OS firmware. So, the pointer areas were reserved to prevent from overwriting by OS firmware.
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	H	FRN 11	November 2005	<ul style="list-style-type: none"> Fixed defect for Hard Fault in bit addressing into a PLS file Fixed defect for Pre-Transmit Delay in DF1-RM. Fixed defect for ACL instruction. If ACL instruction is placed alone on a rung, communication will be blocked by this defect. When both transmit and receive buffer clear options are selected, if default COMM button is pressed, ACL instruction does not purge other buffers. Changed the indirect bit address check in the Pre-First Pass. Checking for the indirect bit address is not performed in the Pre-First Pass. The controller will generate Fault during RUN mode instead of Hard Fault during Pre-First Pass Promoted OS function type to 0x400B

MicroLogix 1200 New Features and Enhancements

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware Revision	Release Date	Enhancement
1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	H	FRN 11	November 2005	<ul style="list-style-type: none"> As above Promoted OS function type to 0x400C
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB 1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	H	FRN 12	April 2008	<ul style="list-style-type: none"> Fixed defect for user flash writing for Ladder Program programming Removed the PowerUpcounter value check with 0xFFFF in Power Down data structure to prevent possible logic error Added the solution for DH485 remote communication issue which controller should always accept a Destination Link ID of zero as valid.
	C	H	FRN 13	March 2013	Status file bits (S2:1/13, S2:5/0, S2:5/2, S2:5/3) and watch dog bits (S2:3/8-15) were writable through communication messages which allowed the possibility to force the controller to go into fault. The solution included in this firmware revision allows users to CLEAR these bits (S2:1/13, S2:5/0, S2:5/2, S2:5/3) but does NOT allow them to SET using Communication messages. The watch dog bits (S2:3/8-15) will be Read Only in non-transfer mode.

(1) OS = Operating System.

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- (2) For users of RSLogix 500 Programming Software version 4.5: MicroLogix 1200 Series C Revision A controllers with FRN4 firmware may be downgraded for compatibility with this version of software using the ControlFlash FRN3 tool available on the MicroLogix website. The controller may be later upgraded using the FRN5 (which replaces the FRN4 ControlFlash upgrade, and is a functional equivalent) or higher ControlFlash tool.
- (3) For users of RSLogix 500 Programming Software version 4.5: MicroLogix 1200 Series C Revision B controllers with FRN5 or later firmware may be downgraded for compatibility with this version of software using the ControlFlash FRN 3.1 tool available on the MicroLogix website. Your controller may be later upgraded using the FRN5 (which replaces the FRN 4 ControlFlash upgrade, and is a functional equivalent) or higher ControlFlash tool.

Operating system firmware flash upgrades and downgrades are available for MicroLogix 1200 controllers from the MicroLogix website, <http://ab.rockwellautomation.com/Programmable-Controllers/MicroLogix-Systems>. Any controller may be upgraded to the latest release by using these tools.

Users of RSLogix 500 version 4.5 with MicroLogix 1200 Series C Revision A and B should refer to footnotes 2 and 3 of the preceding table for compatibility requirements.

MicroLogix 1500 New Features and Enhancements

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Enhancement
1764-LSP	A	B	FRN 2	February 1999	Initial product release.
1764-LSP	A	C	FRN 3	October 1999	MicroLogix 1500 controllers with 1764-LSP processor can now be used with Compact I/O (Bulletin 1769) Expansion Cables and Power Supplies.
1764-LSP	B	A	FRN 4	April 2000	MicroLogix 1500 controllers with 1764-LSP processor can now use: <ul style="list-style-type: none"> • String Data File Type • ASCII Instruction Set Support • Modbus RTU Slave protocol • Ramping, when using PWM outputs • Static Data File Protection • RTC Messaging
1764-LRP	B	A	FRN 4	April 2000	Initial product release. MicroLogix 1500 controllers with 1764-LRP Processor has all the features of the 1764-LSP, plus: <ul style="list-style-type: none"> • Second communications port (isolated RS-232) • Data Logging capability
1764-LSP 1764-LRP	B	B	FRN 5	October 2000	For both the 1764-LSP and LRP processors: <ul style="list-style-type: none"> • When using the PTO feature, the controller can now perform a controlled stop when using PTO outputs. The deceleration phase of the PTO can be initiated early via ladder logic. • Enhanced program compare bit functionality in the Memory Module.

MicroLogix 1500 New Features and Enhancements

Catalog Number	OS ⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Enhancement
1764-LSP 1764-LRP	C	A	FRN 6	September 2001	This revision supports: <ul style="list-style-type: none"> Floating Point (F) Data File for use with: compare instructions (EQU, GEQ, GRT, LEQ, LES, LIM, NEQ); math instructions (ABS, ADD, CLR, DIV, JUL, NEG, SQR, SUB); move instruction (MOV); file instructions (CPW, FLL); and the message (MSG) instruction Programmable Limit Switch (PLS) File for use with HSC RTA - Real Time Clock Adjust GCD - Gray Code CPW - Copy Word ABS - Absolute Value RCP - Recipe MSG - Message on DeviceNet (<i>1764-LRP only</i>)
1764-LSP 1764-LRP	C	B	FRN 7	September 2002	This revision supports: <ul style="list-style-type: none"> The Floating Point (F) Data File can now be used with the Scale with Parameters (SCP) Modbus Memory Mapping Enhancements
1764-LSP 1764-LRP	C	C	FRN 8	April 2003	This revision supports: <ul style="list-style-type: none"> DF1 Half-Duplex Master Driver DF1 Radio Modem Driver Enhanced DF1 Broadcast Support ASCII Clear Buffer (ACL) instruction enhancement
1764-LRP	C	C	FRN 8	April 2003	This revision supports Channel Diagnostic Counter Reset.
1764-LSP 1764-LRP	C	D	FRN 9	November 2003	This revision supports: <ul style="list-style-type: none"> Modbus Master Protocol PTO Independent Accel/Decel profiles

MicroLogix 1500 New Features and Enhancements

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Enhancement
1764-LSP 1764-LRP	C	D	FRN 10	November 2005	<ul style="list-style-type: none"> Added support for the MM3/MM3RTC. The MM3/MM3RTC has the same user memory size as the MM2/MM2RTC except recipe data area. Recipe data which was stored to Data Log Queue area in ML1510 can be stored to upper 64Kbytes (actually maximum 48Kbytes) of the MM3/MM3RTC. So, this memory module will be used in ML1510 when Recipe data exists and is stored to Data Log Queue. There is no difference in the functionality between MM2/MM2RTC and MM3/MM3RTC except storing Recipe data in the Data Log Queue. Removed support for the Memory Module Initialization features for MM1/MM1RTC/RTC /MM2/MM2RTC via serial communication due to Flash memory space. But, the Memory Module Initialization feature for MM3/MM3RTC is included.

MicroLogix 1500 New Features and Enhancements

Catalog Number	OS ⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Enhancement
					<ul style="list-style-type: none"> • Fixed defect for Hard Fault in Bit addressing into a PLS file. • Fixed defect for Pre-Transmit Delay in DF1-RM. This fix does not include the packet flush feature. • Fixed defect for ACL instruction. If ACL instruction is placed alone on a rung, communication will be blocked by this defect. When both transmit and receive buffer clear options are selected, if default COMM button is pressed, ACL instruction does not purge other buffers. • Changed the indirect bit address check in the Pre-First Pass. Checking for the indirect bit address is not performed in the Pre-First Pass. So, the controller will generate Fault during RUN mode instead of Hard Fault during Pre-First Pass.

MicroLogix 1500 New Features and Enhancements

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Enhancement
1764-LSP 1764-LRP	C	D	FRN11	January 2006	Fixed defect for the maximum Processor Image reading/writing from/to MM3/MM3RTC.
	C	D	FRN 13	March 2013	Status file bits (S2:1/13, S2:5/0, S2:5/2, S2:5/3) and watch dog bits (S2:3/8-15) were writable through communication messages which allowed the possibility to force the controller to go into fault. The solution included in this firmware revision allows users to CLEAR these bits (S2:1/13, S2:5/0, S2:5/2, S2:5/3) but does NOT allow them to SET using Communication messages. The watch dog bits (S2:3/8-15) will be Read Only in non-transfer mode.

(1) OS = Operating System.

Corrected Anomalies

MicroLogix 1200 Corrected Anomalies

Catalog Number	OS ⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Corrected Anomalies
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB 1762-L24AWAR 1762-L24BWAR 1762-L24BXHR 1762-L40AWAR 1762-L40BWAR 1762-L40BXHR	C	H	FRN 14	July 2014	<ul style="list-style-type: none"> Negative values are accepted for the Timer file. The solution included in this firmware revision no longer allows negative values for the ACC and PRE fields of the Timer file, through the RSLogix 500 software or any Human Machine Interface connected to the controller. Processor memory can be cleared using the RSLogix 500 software. The solution included in this firmware revision no longer allows you to select the option to clear the processor memory in FRN 14 and later.

(1) OS = Operating System.

MicroLogix 1500 Corrected Anomalies

Catalog Number	OS⁽¹⁾ Series Letter	OS Revision Letter	Firmware revision	Release Date	Corrected Anomalies
1764-LSP 1764-LRP	C	D	FRN 14	July 2014	<ul style="list-style-type: none"> • Negative values are accepted for the Timer file. The solution included in this firmware revision no longer allows negative values for the ACC and PRE fields of the Timer file, through the RSLogix 500 software or any Human Machine Interface connected to the controller. • Processor memory can be cleared using the RSLogix 500 software. The solution included in this firmware revision no longer allows you to select the option to clear the processor memory in FRN 14 and later.

(1) OS = Operating System.

Additional Resources

This document contains additional information concerning related Rockwell Automation products.

Resource	Description
MicroLogix 1200 and MicroLogix 1500 Programmable Controllers Instruction Set Reference Manual, publication 1762-RM001 .	Contains instruction sets and other information specific to 1762 controllers.

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://www.rockwellautomation.com/support/>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

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