Allen-Bradley

Micro800 Programmable Controllers

Catalog Number Bulletin 2080, firmware revision 11 or later

About This Publication

These release notes supplement the existing documentation supplied with your product. Read this document before using Micro800™ controllers.

Firmware Revision History

The latest firmware revision for your Micro800 controllers can be downloaded from the Rockwell Automation Product Compatibility and Download Center website at:

http://www.rockwellautomation.com/rockwellautomation/support/pcdc.page

IMPORTANT This publication contains information on firmware revision 11.011 or later. For information on previous firmware revisions, refer to publication 2080-RN001.

Firmware Revision History for Micro820 Controllers

Revision	Description	Series Compatibility
6.011[1]	First major revision release	Series A
6.012	Minor revision release	Series A
6.015	Minor revision release	Series A
7.011	Major revision release	Series A
7.013	Minor revision release	Series A
7.014	Minor revision release	Series A and B
8.011	Major revision release	Series A and B
9.011	Major revision release	Series A and B
10.011	Major revision release	Series A and B
10.012	Minor revision release	Series A and B
11.011	Major revision release	Series A, B, and C
12.011	Major revision release	Series A, B, and C

(1) This firmware revision is obsolete and is no longer available for download.

Firmware Revision History for Micro830 Controllers

Revision	Description	Series Compatibility
1.011[1]	First revision release	Series A
1.012[1]	Minor revision release	Series A
1.013	Minor revision release	Series A
2.011	Major revision release	Series A
4.011	Major revision release	Series A
4.012	Minor revision release	Series A
4.013	Minor revision release	Series A
6.011	Major revision release	Series A
7.011	Major revision release	Series A

Firmware Revision History for Micro830 Controllers

Revision	Description	Series Compatibility
8.011	Major revision release	Series A
8.012	Minor revision release	Series A
9.011	Major revision release	Series A
10.011	Major revision release	Series A
11.011	Major revision release	Series A
12.011	Major revision release	Series A

(1) This firmware revision is obsolete and is no longer available for download.

Firmware Revision History for Micro850 Controllers

Revision	Description	Series Compatibility
2.011	First revision release	Series A
4.011	Major revision release	Series A
4.012	Minor revision release	Series A
4.013	Minor revision release	Series A
6.011	Major revision release	Series A
7.011	Major revision release	Series A
8.011	Major revision release	Series A
9.011	Major revision release	Series A
10.011	Major revision release	Series A
11.011	Major revision release	Series A and B
12.011	Major revision release	Series A and B

Firmware Revision History for Micro870 Controllers

Revision	Description	Series Compatibility
11.011	First revision release	Series A – 2080-LC70-24QWB and 2080-LC70-24QBB only
12.011	Major revision release	Series A – all Micro870 controllers

Micro870® controllers require the following to be able to communicate with specific PanelView™ terminals:
- FactoryTalk® View software, version 10 or later, for PanelView Plus terminals.
- PanelView 800 terminal firmware revision 5 or later for PanelView 800 terminals.

Firmware Backward Compatibility

Micro800 firmware is always backward compatible with previous revisions. It is not necessary to flash downgrade a controller to a previous revision to match an earlier project revision. For example, a Connected Components Workbench™ (CCW) project configured with a controller revision of 2.xxx can be downloaded into a controller with firmware revision 2.xxx or higher.

It is, however, recommended that you always upgrade to the latest software, as older software versions cannot recognize newer firmware revision controllers when discovering, uploading, and downloading. For example, Micro870 controller 2080-LC70-24AWB is first supported in firmware revision 12.011. Therefore Connected Components Workbench software version 12 or later is required.

Availability of Enhancements and Anomaly Fixes

Enhancements are available in the controller only if the controller is at the required firmware revision or higher, and the Connected Components Workbench project contains a controller configured with the required firmware revision or higher. If the project contains a controller revision that is lower than the required revision for an enhancement, then the project is still valid but the enhancement will not be available until the project is upgraded to the minimum supported revision.

Fixes for firmware anomalies will be available as long as the controller firmware revision is at the minimum revision or higher. The configured controller revision in the project does not matter.

The following tables provide a list of enhancements, known anomalies, and corrected anomalies for the Micro800 firmware revisions.

Features

Enhancements for Micro820 Controllers

Enhancement	Description	Available from Firmware Revision
Auto-restart fault handling	An option to automatically restart the controller even after a non-recoverable fault occurs has been added.	12.011
Additional diagnostic fault codes	Diagnostic fault codes F015 and F019 have been added.	12.011
Modbus TCP server enable/disable	Modbus TCP server can now be enabled/disabled. Default setting is disabled.	12.011
Instructions added	AFI, NOP, SCL, and COM_IO_WDOG instructions have been added.	12.011
LIFO instructions added	LIFO Load (LFL) and LIFO Unload (LFU) instructions have been added.	11.011
2080-MOT-HSC plug-in module native instruction support	New High-Speed Counter instructions have been added for the 2080-MOT-HSC plug-in module. Instructions are HSCE, HSCE_CFG, HSCE_CFG_PLS, HSCE_READ_STS, HSCE_SET_STS.	11.011
Fault log enhancements	Logging of faults on certain fault conditions has been improved.	11.011

Enhancements for Micro830 and Micro850 Controllers

Enhancement	Description	Available from Firmware Revision
Auto-restart fault handling	An option to automatically restart the controller even after a non-recoverable fault occurs has been added.	12.011
Additional diagnostic fault codes	Diagnostic fault codes F015 and F019 have been added.	12.011
Recipe, Datalog, and ControlFLASH support using microSD card plug-in module.	Feature support for Recipe, Datalog, and ControlFLASH using the microSD card plug-in module has been added.	12.011
Real Time Clock in firmware support	Support for Real Time Clock is added to firmware, for use when hardware Real Time Clock is not available.	12.011
Modbus TCP server enable/disable	Modbus TCP server can now be enabled/disabled. Default setting is disabled. For Micro850 controller only.	12.011
Instructions added	AFI, NOP, SCL, and COM_IO_WDOG instructions have been added.	12.011
LIFO instructions added	LIFO Load (LFL) and LIFO Unload (LFU) instructions have been added.	11.011
2080-MOT-HSC plug-in module native instruction support	New High-Speed Counter instructions have been added for the 2080-MOT-HSC plug-in module. Instructions are HSCE, HSCE_CFG, HSCE_CFG_PLS, HSCE_READ_STS, HSCE_SET_STS.	11.011
Fault log enhancements	Logging of faults on certain fault conditions has been improved.	11.011
RTC_READ2 instruction added	The RTC_READ2 function block can be used to read the RTC's present date/time information and battery status for the controller.	11.011
2080-MEMBAK-RTC2 plug-in	The 2080-MEMBAK-RTC2 plug-in supports No Battery indication in addition to the existing features of the 2080-MEMBAK-RTC plug-in.	11.011
Increased controller I/O limit (Micro850 only)	The Micro850® 48-point controller discrete I/O limit has been increased from 132 points to 192 points.	11.011

Enhancements for Micro870 Controllers

Enhancement	Description	Available from Firmware Revision
Auto-restart fault handling	An option to automatically restart the controller even after a non-recoverable fault occurs has been added.	12.011
Additional diagnostic fault codes	Diagnostic fault codes F015 and F019 have been added.	12.011
Recipe, Datalog, and ControlFLASH support using microSD card plug-in module.	Feature support for Recipe, Datalog, and ControlFLASH using the microSD card plug-in module has been added.	12.011
Real Time Clock in firmware support	Support for Real Time Clock is added to firmware, for use when hardware Real Time Clock is not available.	12.011
Modbus TCP server enable/disable	Modbus TCP server can now be enabled/disabled. Default setting is disabled.	12.011
Instructions added	AFI, NOP, SCL, and COM_IO_WDOG instructions have been added.	12.011

Anomalies

Known and Corrected Anomalies for Micro820 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
IPIDCONTROLLER function block may report incorrect status of autotune sequence	When using the IPIDCONTROLLER function block to perform an autotune, the function block may report incorrectly that the autotune sequence has timed out (ATWARNING = -2), but is actually still running. The warning can be ignored to allow the autotune sequence to complete or timeout naturally. Workaround to monitor the actual timeout status is to use the TON and TOFF instructions. 181945	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	
Connection to REMLCD module lost after changing embedded port setting from Modbus back to CIP Serial	After changing the embedded port setting from Modbus back to CIP Serial, connection is lost to the REMLCD module. Workaround is to power cycle the controller. 14527/APBC00022582	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	
TCP retry timeout	Currently, TCP retry timeout is set to 1 second and is not adjustable. Performance may degrade under heavy load because the retry timeout may be too long. In Connected Components Workbench revision 7.00 you can examine the Ethernet diagnostic counters, specifically "MAC Received Errors". This counter indicates that receive packets are being dropped by the controller due to heavy load. Reduce communications load to reduce the number of errors. 14517/APBC00021805	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	

Known and Corrected Anomalies for Micro820 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
Pass-through of connected CIP messages with more than one class and instance will fail	When Micro800 controller is the intermediate node for CIP™ pass-through of connected messages, messages with more than one class and instance will fail. (For example, Studio 5000® environment download of a CompactLogix™ program over USB to Micro800 which passes through over EtherNet/IP™ to a CompactLogix controller is not supported.) 14506/APBC00021406	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	
Long Real data values used on DLG that are either too big or too small affect scan time performance	Scan time is significantly longer when the program includes execution of one DLG function block that is configured with multiple Long Real data values which are either extremely huge (that is, >> ±1.0E+50), or extremely small (that is, -1.0E-50 << value <0, or +1.0E-50 >> value > 0). 14486/APBC00019047	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	
MSG_MODBUS instruction's Q output is not cleared after controller is power cycled	After power cycling the controller, the MSG_MODBUS instruction's Q output should be cleared but it is not. If there is logic that assumes the Q output is cleared, it will not operate properly. For example, using the Q output to re-trigger the instruction when false. For Micro820 controllers, this issue is only encountered if the "Retained" flag is enabled for the MSG_MODBUS instance. 14413/APBC00024636	12.011 11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	

Known and Corrected Anomalies for Micro820 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
Premature AutoTune failure	PIDCONTROLLER allowable time duration to complete AutoTune sequence becomes progressively shorter for each subsequent AutoTune after project download. A workaround is to re-download the project to avoid premature AutoTune failure. 14536/APBC00023007	11.011 10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	12.011
[CF] command in ConfigMeFirst.txt file changes "Clear fault" startup setting of Connected Components Workbench project	The [CF] command in the ConfigMeFirst.txt file changes the startup setting of the Connected Components Workbench project in the controller from "Clear fault" to "Do not clear fault". This change remains even when the microSD card is removed. 62861	10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	11.011
Controller sends ARP broadcasts even if Detect duplicate IP address field is unchecked	The controller sends ARP broadcasts even if the Detect duplicate IP address field in the Connected Components Workbench project is unchecked. 14620/APBC00030176/APBC00022647	10.012 10.011 9.011	11.011

Known and Corrected Anomalies for Micro820 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
CIP connection timeout outside ODVA specification required time	When the RPI value is large (for example 1 second or 10 seconds), the CIP connection timeout resolution will be outside the ODVA specification (CIP Node on EtherNet/IP CT13) required time of 250 milliseconds. Workaround is to use RPI values less than 400 milliseconds. 14617/APBC00029838	10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	11.011
Firmware upgrade over serial port appears to fail	When you upgrade the firmware revision over a serial port, an error appears to indicate that the process has failed even if the upgrade is successful. 14588/APBC00028240	10.012 10.011	11.011
UID and UIE instructions cancel pending user interrupts	If a user interrupt such as STI occurs within a UID and UIE zone, the interrupt is canceled instead of going to the pending state and the interrupt will not execute after the UIE instruction. 14435/APBC00028977	10.012 10.011 9.011 8.011 7.014 7.013 7.011 6.015 6.012 6.011	11.011

Known and Corrected Anomalies for Micro830 and Micro850 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
IPIDCONTROLLER function block may report incorrect status of autotune sequence	When using the IPIDCONTROLLER function block to perform an autotune, the function block may report incorrectly that the autotune sequence has timed out (ATWARNING = -2), but is actually still running. The warning can be ignored to allow the autotune sequence to complete or timeout naturally. Workaround to monitor the actual timeout status is to use the TON and TOFF instructions. 181945	12.011 11.011 10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011 2.011 1.013(1) 1.012(1) 1.011(1)	
Controller faults 0xF293 even if correct expansion I/O generic configuration is downloaded (Micro850 only)	After you correct a configuration error that previously existed in an expansion I/O module, a 0xF293 fault code (Expansion IO Module Fault) appears when you download the project to the controller. As a workaround, without changing the configuration, download the project to the controller again. 43065	12.011 11.011 10.011 9.011	
TCP retry timeout for Micro850 controller	Currently, TCP retry timeout is set to 1 second and is not adjustable. Performance may degrade under heavy load because the retry timeout may be too long. In Connected Components Workbench revision 7.00 you can examine the Ethernet diagnostic counters, specifically "MAC Received Errors". This counter indicates that receive packets are being dropped by the controller due to heavy load. Reduce communications load to reduce the number of errors. 14517/APBC00021805	12.011 11.011 10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011	

Known and Corrected Anomalies for Micro830 and Micro850 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
RSLinx unable to browse for CIP bridge device from controller plug-in module slot 4 and 5	When a serial plug-in module is connected to controller slot 4 or 5, RSLinx® cannot browse to the device. 14496/APBC00020409	12.011 11.011 10.011 9.011 8.011 7.011 6.011	
CIP messaging communication may be affected by cable break	For CIP messaging client function, if there is one or more devices with a cable break, the messaging client connection with other devices may become slower, with possible timeouts. This may happen if multiple messages are pending due to the cable break. 14462/APBC000015030	12.011 11.011 10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011	
MSG_MODBUS instruction's Q output is not cleared after controller is power cycled	After power cycling the controller, the MSG_MODBUS instruction's Q output should be cleared but it is not. If there is logic that assumes the Q output is cleared, it will not operate properly. For example, using the Q output to re-trigger the instruction when false. 14413/APBC00024636	12.011 11.011 10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011 2.011 1.013(1) 1.012(1) 1.011(1)	
Premature AutoTune failure	PIDCONTROLLER allowable time duration to complete AutoTune sequence becomes progressively shorter for each subsequent AutoTune after project download. A workaround is to re-download the project to avoid premature AutoTune failure. 14536/APBC00023007	11.011 10.011 9.011 8.011 7.011 6.011	12.011

Known and Corrected Anomalies for Micro830 and Micro850 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
Controller sends ARP broadcasts even if Detect duplicate IP address field is unchecked (Micro850 only)	The controller sends ARP broadcasts even if the Detect duplicate IP address field in the Connected Components Workbench project is unchecked. 14620/APBC00030176	10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011 2.011	11.011
CIP connection timeout outside ODVA specification required time	This anomaly applies to Micro850 controllers only. When the RPI value is large (for example 1 second or 10 seconds), the CIP connection timeout resolution will be outside the ODVA specification (CIP Node on EtherNet/IP CT13) required time of 250 milliseconds. Workaround is to use RPI values less than 400 milliseconds. 14617/APBC00029838	10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011 2.011 1.013(1) 1.012(1) 1.011(1)	11.011
UID and UIE instructions cancel pending user interrupts	If a user interrupt such as STI occurs within a UID and UIE zone, the interrupt is canceled instead of going to the pending state and the interrupt will not execute after the UIE instruction. 14435/APBC00028977	10.011 9.011 8.011 7.011 6.011 4.013 4.012 4.011 2.011 1.013(1) 1.012(1) 1.011(1)	11.011

(1) Applies to Micro830 controllers only.

Known and Corrected Anomalies for Micro870 Controllers

Anomaly	Description	Affected Firmware Revisions	Corrected Firmware Revisions
IPIDCONTROLLER function block may report incorrect status of autotune sequence	When using the IPIDCONTROLLER function block to perform an autotune, the function block may report incorrectly that the autotune sequence has timed out (ATWARNING = -2), but is actually still running. The warning can be ignored to allow the autotune sequence to complete or timeout naturally. Workaround to monitor the actual timeout status is to use the TON and TOFF instructions. 181945	12.011 11.011	
Controller faults 0xF293 even if correct expansion I/O generic configuration is downloaded	After you correct a configuration error that previously existed in an expansion I/O module, a 0xF293 fault code (Expansion IO Module Fault) appears when you download the project to the controller. As a workaround, without changing the configuration, download the project to the controller again. 43065	12.011 11.011	

Firmware Update

Instructions on how to flash update your controller with the latest firmware is provided in the User Manual for your Micro800 controller. See Additional Resources for the link to your online user manual.

WARNING: Do not change the mode of the Micro820® controller using the Remote LCD when flash updating the firmware.

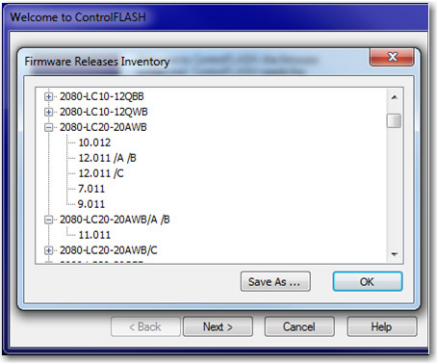
IMPORTANT Micro830® and Micro850® controllers with date code earlier than April 2015 may be unable to update the firmware under certain conditions. For more information, see the Rockwell Automation Knowledgebase, https://rockwellautomation.custhelp.com/, Answer ID 1085604.

IMPORTANT To successfully flash update your controller over USB when using the ControlFLASH™ software, connect only one controller to your computer, and do not run ControlFLASH in a virtual machine such as VMware.

IMPORTANT To successfully flash update your controller over USB when using the FactoryTalk Linx software, do not perform the update in a 32-bit version of Windows OS.

IMPORTANT After control flashing the controller, some microSD cards may not be detected. If this issue is encountered, eject and re-insert the card, or power cycle the controller.

IMPORTANT When using ControlFLASH, if you are updating your controller firmware to revision 11, select the firmware from the catalog number with series information (for example, 2080-LC20-20AWB/A /B). For all other versions, select the firmware from the catalog number without series (for example, 2080-LC20-20AWB).



To get the latest firmware for your Controller, go to the following links:

- Firmware for Micro810
- Firmware for Micro820
- Firmware for Micro830
- Firmware for Micro850
- Firmware for Micro870

Look for the Resources tab, then click Firmware to download the latest firmware.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Micro810 Programmable Controllers User Manual, publication 2080-UM001	Detailed description of features and how to install and use the Micro810®, Micro820, Micro830, Micro850, and Micro870 programmable controllers.
Micro820 Programmable Controllers User Manual, publication 2080-UM005	
Micro830, Micro850, and Micro870 Programmable Controllers User Manual, publication 2080-UM002	
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/products/certification/	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at http://www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

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 and application notes, sample code, and links to software service packs. You can also visit our Support Center at https://rockwellautomation.custhelp.com/ for software updates, support chats and forums, technical information, FAQs, and to sign up for product notification updates.

In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit
http://www.rockwellautomation.com/services/online-phone.

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/rockwellautomation/support/overview.page, or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help 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.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication RA-DU002, available at http://www.rockwellautomation.com/literature/.

Rockwell Automation maintains current product environmental information on its website at
http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page.

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