

IMPORTANT PRODUCT INFORMATION

READ THIS INFORMATION FIRST

Product: IC693 CPU Firmware Release 8.21

IC693CPU311-AC

IC693CPU313-T

IC693CPU323-T

IC693CPU331-CD

IC693CPU341-V

Introduction

This document contains information that is not available in any other publication; therefore, we recommend you save it for future reference. This document discusses the features of firmware version 8.21 for the five CPU modules listed above.

New Features and Functionality of Firmware Release 8.21

DSM312 Support Added

This release adds support for a new module, the IC693DSM312. With release 8.21, the PLC will accept a configuration containing an IC693DSM312 when the module becomes available.

Hardware Identification

PLC Model	Board ID	Board Revision
IC693CPU311	BC3C2	44A731725-G01R02 or later
IC693CPU313	BC3C2	44A731725-G01R02 or later
IC693CPU323	BC3D2	44A731730-G01R04 or later
IC693CPU331	CP3A3	44A737299-G01R03 or later
IC693CPU341	CH3A2	44A735369-G01R03 or later

Firmware Identification

Firmware for these CPUs is stored in a replaceable EPROM. The following table provides identification information for this EPROM.

Current CPU Catalog Number	Previous Catalog Numbers Replaced by this Release	EPROM Location	EPROM Label	Checksum
IC693CPU311AC	IC693CPU311AB and earlier	U8	395-027M 8.21	01CC2175
IC693CPU313T	IC693CPU313S and earlier	U8	395-018M8.21	01CFE621
IC693CPU323T	IC693CPU323S and earlier	U8	395-019M 8.21	01CFE621
IC693CPU331-CD	IC693CPU331CC and earlier	U35	395-045D 8.21	01BC2031
IC693CPU341V	IC693CPU341U and earlier	U35	528-001P 8.21	01B0741C

Firmware Upgrade Kits

Those wishing to upgrade their CPU module to firmware version 8.21 may purchase the appropriate upgrade kit. Select the upgrade kit catalog number that corresponds to your CPU from the following table.

CPU Model	Upgrade Kit Catalog Number
IC693CPU311	44A731233-G15
IC693CPU313	44A731249-G11
IC693CPU323	44A735538-G11
IC693CPU331	44A731232-G15
IC693CPU341	44A731240-G12

Operational Notes

If Upgrading Firmware

The user program, configuration, CPU ID (used for SNP communication), and status tables will automatically be cleared when the CPU firmware EPROM is changed. So you will need to restore these after performing a firmware upgrade. The user program, configuration, and status tables can be restored from a program folder, from memory card, or EEPROM. The SNP ID must be set separately, using the MS-DOS[®] PLC programming software or the HHP.

EM3 Compatibility

All IC693 Ethernet Interface (IC693CMM321) modules used with release 6.50 or later of the IC693 PLC should be updated to release 1.10 or later of the IC693CMM321. The MS-DOS PLC programming software (IC693 TCP/IP/Ethernet) requires both CPU release 6.50 or later and IC693CMM321 release 1.10 or later.

During a Run Mode (alt-s) Program Store of a large program block (greater than 14 kilobytes), the EM3 may time-out, causing communications to fail. Changing the Communication Window to Run-to-Completion mode, or storing the program in stop mode, will allow the store to take place successfully.

FBC Compatibility

The FBC version 3 or later is required for release 8.00 of the IC693 PLC CPU firmware.

Problems Resolved by this Release (8.21)

FBC Editing with Hand Held Programmer (HHP)

A soft alarm fault could occur in release 8.20 when editing an FBC configuration with a hand held programmer. This problem has been corrected in release 8.21.

Storing Foreign Module Configuration to Slot 1

Storing a configuration with a foreign module in slot 1 (possible only on 311, 313, or 323) would result in a fatal fault in release 8.20. This has been corrected in release 8.21.

End Function Block

The End Function Block no longer terminates a sweep if it is in a subroutine. It merely exits the subroutine. This restores the functionality as it was prior to release 8.

SVC REQ7

SVC REQ 7 previously would allow an invalid date, such as 2/29/01 to be entered. Dates with a day number greater than is legal for the specified month is no longer allowed as input to SVC REQ 7.

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Additions to User Manual

The following will be added to the *IC69* PLC Serial Communications User's Manual*, at its next revision:

Disable Break-Free SNP Slave Operation: 7004

Available Modes: Slave

Description:

Local command. This command disables the break-free SNP feature in IC693 CPU firmware version 8.20 and later versions. Break-free SNP simplifies MODEM communication with IC693 PLCs by eliminating the requirement for a serial break at the start of each SNP and SNP-X session.

Break-free SNP on built-in slave ports in PLC CPUs uses a small fraction of the CPU processing bandwidth. For most applications the impact on CPU performance is negligible. However, applications that use multi-drop SNP or SNP-X communication can incur noticeable increases in PLC sweep times because all slave units must examine every received message.

This command disables break-free operation and eliminates its impact on PLC sweep time. Break-free operation remains disabled until the next time the PLC is powered on or command 7005 is executed. If a communication session is in progress when the command is executed, communication will continue, but detection of no-break Attach/X-Attach messages will stop immediately.

The COMMREQ that sends this command may be executed on the first PLC sweep.

If the COMM_REQ status word location specified in words 3 and 4 of the command block is not a valid %R, %AI or %AQ reference, power flow into the COMM_REQ function block will cause power flow to its fault (FT) output. Otherwise, the value one (1) is written to the status word when the command succeeds. When unsuccessful, one of these values is returned:

- 010Ch WAIT-mode COMREQ is not permitted; must use NOWAIT.
- 020Ch Command not supported; the port is either not configured as an SNP slave or does not support break-free operation.

Sending this command when break-free SNP is already disabled has no effect; however, the COMMREQ status location will be set to 1, indicating success. Sending this command to a PLC CPU built-in serial port that does not support break-free SNP will set the fault output of the COMMREQ.

COMMREQ Parameters:

SYSID: IC693CPU311, IC693CPU313, IC693CPU323:	0	(0000)
IC693CPU331, IC693CPU341:	1	(0001)
Task:	00031	(001F)

Example Command Block:

Word 1:	00001 (0001)	SNP Data Block Length
Word 2:	00000 (0000)	NOWAIT Mode
Word 3:	00008 (0008)	Status Word Memory Type (%R)
Word 4:	00000 (0000)	Status Word Address minus 1 (Register 1)
Word 5:	00000 (0000)	Not Used
Word 6:	00000 (0000)	Not Used
Word 7:	07004 (1B5C)	SNP Command Number: Disable break-free SNP

Enable Break-Free SNP Slave Operation: 7005

Available Modes: Slave

Description:

Local command. This command enables the break-free SNP feature in IC693-30 CPU firmware version 8.20 and later. See command 7004 for a discussion of break-free SNP.

Because break-free operation is enabled when the PLC is powered on, this command has no effect unless command 7004 was previously executed. If a communication session is in progress when this command is executed, communication will continue, and detection of no-break Attach/X-Attach messages will begin when the current session is ended by a link-idle time-out.

The COMMREQ that sends this command may be executed on the first PLC sweep.

If the COMM_REQ status word location specified in words 3 and 4 of the command block is not a valid %R, %AI or %AQ reference, power flow into the COMM_REQ function block will cause power flow to its fault (FT) output. Otherwise, the value one (1) is written to the status word when the command succeeds. When unsuccessful, one of these values is returned:

010Ch WAIT-mode COMREQ is not permitted; must use NOWAIT.

020Ch Command not supported; the port is either not configured as an SNP slave or does not support break-free operation.

Sending this command when break-free SNP is already enabled has no effect; however, the COMMREQ status location will be set to 1, indicating success. Sending this command to a PLC CPU built-in serial port that does not support break-free SNP will set the fault output of the COMMREQ.

COMMREQ Parameters:

SYSID: IC693CPU311, IC693CPU313, IC693CPU323:	0	(0000)
IC693CPU331, IC693CPU341:	1	(0001)
Task:	00031	(001F)

Example Command Block:

Word 1:	00001 (0001)	SNP Data Block Length
Word 2:	00000 (0000)	NOWAIT Mode
Word 3:	00008 (0008)	Status Word Memory Type (%R)
Word 4:	00000 (0000)	Status Word Address minus 1 (Register 1)
Word 5:	00000 (0000)	Not Used
Word 6:	00000 (0000)	Not Used
Word 7:	07005 (1B5D)	SNP Command Number: Enable break-free SNP