

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GE 90-30 SERIES PLC

IC693CPU350-EK

CPU 350 CONTROLLER

Used with the applicable Series 90-30 controllers configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE official manufacturer documentation

IMPORTANT PRODUCT INFORMATION

READ THIS INFORMATION FIRST

Product: IC693 CPU Modules

IC693CPU350-CF with Firmware Release 10.50

IC693CPU360-CG with Firmware Release 10.51

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 firmware release 10.51 for CPU360, which corrects the problem noted in the section “Problems Resolved by this Release.” No new features are added by this release. CPU350 remains at release 10.50 at this time. This document also contains information about several previous releases.

Feature Highlights of Firmware Release 10.51

No new features.

Feature Highlights of Firmware Release 10.50

No new features.

Feature Highlights of Firmware Release 10.00

Note: The following CPU features require the use of VersaPro 1.1 (or later version). For details on these features, please see the VersaPro on-line help.

- Support was added for the **IC693DSM314** servo module.
- Support was added for storing **Local Logic Programs**. These programs are stored to the CPU from the programmer. These programs will automatically be stored from the CPU to the appropriate smart option module. The limit on the size of all Local Logic Programs is 65280 bytes.
- **Reboot after Fatal Fault** – If activated, this feature enables the IC693 PLC system to automatically resume normal operation after a fatal fault has occurred. Following the fatal fault, the PLC will automatically reset and resume execution. If fatal faults are present following the power up, the PLC will still be allowed to transition to run mode. The user can enable this feature through a configuration parameter, and can identify the maximum number of retries and the time period these retries may occur within through new Service Request #48. New Service Request 49 may then be used to determine the number of fatal faults and retries that have occurred.
- Addition of the **Drum Sequencer** function block. This function block operates in the same manner as on the IC200 CPU.

Feature Highlights of Firmware Release 9.00

The following features were introduced in release 9.00.

- **Software Floating-Point.** The CPU350 and CPU360 support all of the floating-point function blocks that are currently supported by the CPU352. They are implemented in firmware using floating point emulation. These Floating-Point math function blocks are described in the *IC693 PLC Reference Manual*.

- **CPU360 user memory increased to 240K bytes.** %R, %AI, and %AQ references are configurable up to 16K of %R, 8K of %AI and 8K of %AQ memory using the MS-DOS® PLC programming software, version 9.02. These three references are configurable up to 32K version 2.2 of the Windows® PLC programming software and version 1.0 of the VersaPro programming software. Configuration instructions for this feature are described in the *MS-DOS IC693 Programming Software User's Manual*, and are included in on-line help in both Windows PLC programming software packages. Note that the CPU350 does not support configurable user memory. Its user memory is set at a fixed value of 32K bytes.
- **Sequential Event Recorder.** The Sequential Event Recorder function block can be used to record up to 1024 samples of 32 individual discrete (bit) references. Both of these CPUs support this function block. Instructions on programming the Sequential Event Recorder are found in the *IC693 PLC Reference Manual*.
- **Break-free SNP.** The SNP protocol no longer requires a break to operate. This allows SNP to work over a wider variety of modems.

Hardware Identification

The following table shows the revision level of the circuit boards used in the current version of these CPUs.

CPU Catalog Number	Circuit Board ID	Circuit Board Version
IC693CPU350-CF	CX3A1	44A739579-G01R07 or later
IC693CPU360-CG	CX3A1	44A739579-G01R07 or later

Firmware Upgrade Kits

If you wish to upgrade an existing CPU350 or CPU360 to firmware version 10.00, you may purchase the applicable kit identified in the following table. All previous versions are capable of being upgraded.

Firmware Upgrade Kit Catalog Numbers	
CPU Catalog Number	Firmware Upgrade Kit Catalog Numbers
IC693CPU350-(all versions)	44A747145-G05
IC693CPU360-(all versions)	44A747148-G06

Firmware Identification

CPU Catalog Number	Motherboard Firmware Version	Daughterboard Firmware Version
IC693CPU350-CF	Main: R10.50 (35A1) Boot: R9.00 (33A1)	N/A
IC693CPU360-CG	Main: R10.51 (16A1) Boot: R9.00 (33A1)	N/A

IC693CPU350 Data

CPU Type	Single slot CPU module
Total Baseplates per System	8 (CPU baseplate + 7 expansion and/or remote)
Load Required from Power Supply	670 milliamps from +5 VDC supply
Processor Speed	25 MegaHertz
Processor Type	80386EX
Typical Scan Rate	.22 milliseconds per 1K of logic (Boolean contacts)
User Program Memory (maximum)	32K Bytes (not configurable)
Discrete Input Points - %I	2,048
Discrete Output Points - %Q	2,048
Discrete Global Memory - %G	1,280 bits
Internal Coils - %M	4,096 bits
Output (Temporary) Coils - %T	256 bits
System Status References - %S	128 bits (%S, %SA, %SB, %SC - 32 bits each)
Register Memory - %R	9,999 words
Analog Inputs - %AI	2,048 words
Analog Outputs - %AQ	512 words
System Registers (for reference table viewing only; cannot be referenced in user logic program)	28 words (%SR)
Timers/Counters	>2,000
Shift Registers	Yes
Built-in Serial Port(s)	1 (uses connector on PLC power supply). Supports SNP, SNP-X slave protocols. Requires CMM module for SNP/SNP-X master, CCM, or RTU (slave) protocol support. Requires PCM module for RTU master support.
Communications	LAN – Supports multidrop. Also supports Ethernet, FIP, Profibus, GBC, GCM, and GCM+ option modules.
Override	Yes
Battery Backed Clock	Yes
Interrupts	Supports the periodic subroutine feature.
Type of Memory Storage	RAM and Flash
PCM/CCM Compatibility	Yes
Floating Point Math Support	Yes, firmware-based in firmware releases 9.0 and later.

