	REVISIONS			
	REV	DESCRIPTION	DATE	APPROVED

INSTRUCTIONS FOR UPGRADING

IC200CPUE05

This CPU model has operating firmware stored in FLASH memory. Firmware upgrades are available on CD-ROM, diskettes, and from the GE Fanuc PLC Technical Support Web site, http://www.gefanuc.com/support/plc/f-versamax.htm.

Installing new firmware requires an IBM-compatible PC running Microsoft Windows® 95, 98, ME, NT 4.0, 2000 or XP with at least one RS-232 (COM) port and (optionally) a 1.44 MB diskette drive.

NOTE: The instructions in this document MUST be followed exactly. If you cannot complete an upgrade successfully, see the sections ***Common Causes of Failure*** and ***Restarting an Interrupted Firmware Upgrade*** in this document. If you need further assistance, please contact the GE Fanuc PLC Technical Support hotline.

CAUTION

PROGRAMS AND DATA STORED IN USER RAM OR FLASH MEMORY WILL BE LOST DURING A FIRMWARE UPGRADE. THEY MUST BE LOADED TO A PROGRAMMING DEVICE BEFORE THE UPGRADE AND STORED TO THE PLC AFTER THE UPGRADE.

Firmware Compatibility Of Hardware Revisions

All hardware revisions of IC200CPUE05 can be upgraded to this version of the CPU firmware.

Serial Cable

You will need one cable to perform the firmware upgrade. It is the standard serial programmer cable for the RS-232 Port 1 on GE Fanuc VersaMax CPUs, GE Fanuc catalog number IC200CBL001. See the ***Cable Required for Upgrading*** section of this document for additional options.

Electronic Firmware Distribution

If you downloaded this firmware upgrade from the GE Fanuc PLC Technical Support Web site or received it as an email attachment, perform these steps:

1. Create a new directory for the upgrade files.
2. Extract the contents of the ZIP file to the new directory. The ZIP file contains this document and is named `IC200CPUE05-Ryzz.zip`, where `"y"` represents the one-digit major version number of the CPU firmware and `"zz"` represents the two-digit minor version number. For example, firmware version 2.20 is distributed in a file named `IC200CPUE05-R220.zip`.

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UNLESS OTHERWISE NOTED	SIGNATURES			
DIMENSIONS ARE IN INCHES/MM TOLERANCES ON: 2 PL DECIMALS 3 PL DECIMALS ANGLES= FRACTIONS=	DRAWN	G. Grimsby	01/08/03	TITLE **INSTALLATION INSTRUCTIONS**
	CHECKED	D. Campbell	3/4/03	
	ENGRG	D. Campbell	3/4/03	
THIRD ANGLE PROJECTION	ISSUED	D. Campbell	3/4/03	
	DIST			SIZE **A** / GEGS NO / DWG NO **44A752310**
	VERSION LEVEL			SCALE / SHEET 1 OF 4

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Firmware Distribution On Diskette

This upgrade cannot be performed directly from the upgrade kit distribution diskette because the files are too large. If you obtained this upgrade on a diskette, perform these steps.

1. Create a new directory for the upgrade files.
2. Extract the contents of the ZIP file on the diskette to the new directory. Use either of the WinZip or PKZIP® for Windows utilities, if available. Otherwise open a command prompt (MS-DOS) window, set the current drive and directory to the new directory for the upgrade files, and use the PKUNZIP.EXE utility from the command prompt. For example:

```
C:\cpue05>dir /b a:
a752310_r0_ic200cpue05.pdf
CPUE05xx.ZIP
pkunzip.exe

C:\cpue05>a:\pkunzip a:\cpue05xx.zip
```

Where "xx" varies with each firmware release. Type the actual file name from the diskette directory listing.

Upgrading the Firmware

To upgrade your firmware, perform these steps.

Prepare the PLC

1. **IMPORTANT:** Save or back up any programs, configuration and data resident in RAM or FLASH memory on the CPU module before performing the upgrade. NOTE: THE PLC PROGRAM, DATA AND HARDWARE CONFIGURATION IN BOTH RAM AND FLASH WILL BE DELETED DURING THE UPGRADE.
2. Place the PLC in STOP/NO IO Mode.
3. Clear any faults in the PLC and I/O Fault tables.
4. Clear the hardware configuration in your PLC. This will assure the upgrade port is set to its default values: 19,200 baud, ODD parity and 8 data bits.
5. If you performed the preceding steps using programming software on the PC that you will use for the firmware upgrade, and you plan to use the same PC serial COM port and cable for the upgrade, close the programmer connection to the PLC. Use (for example) the programmer's Target | Go Offline or PLC | Disconnect tool, or the "Disconnect" icon, if any. This step is required to make the PC serial port available to the WinLoader application.

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Upgrade the CPU Firmware

6. If you have not already done so, connect one of the serial ports of your PC to serial port 1 on the CPU module. Use the GE Fanuc cable (IC200CBL001) or an alternate listed in the ***Cable Required for Upgrading*** section of this document.

   NOTE: VersaMax CPUs do not support firmware upgrades through the 15-pin (RS-485) serial port 2.

7. Start the WinLoader application. There are two methods; use the one you find most convenient.

   Use My Computer or Windows Explorer to find the CPU upgrade files in either the directory you created previously or on the distribution CD-ROM. Double-click the "`winloader.exe`" file.

   OR

   Click the Windows "Start" button and select "Run...". Use the "Browse..." button to find the CPU upgrade files in either the directory you created previously or on the distribution CD-ROM. Select "`winloader.exe`" in the browse window and click the "Open" button.

8. The WinLoader application uses the COM1 port of your PC by default. If you connected your cable to COM1, skip to the next step. If you connected your cable to a different COM port, use WinLoader's "COM Port" drop-down box to select the correct COM port.

9. Click the WinLoader "Update" button to begin loading the new CPU firmware. A progress bar appears at the bottom of the window.

10. Upon completion of the upgrade, a pop-up window appears indicating the completion status of the upgrade. If the upgrade completed successfully, skip to the next step.

    If the firmware load failed, a window will appear indicating the specific error condition that occurred. See the section ***Common Causes of Failure*** in this document for appropriate steps to correct the error. See the section ***Restarting an Interrupted Firmware Upgrade*** in this document to retry the upgrade.

11. Disconnect the serial cable from PLC serial port 1 unless you need it for the final step.

12. If you purchased an upgrade kit, apply the upgrade label in the kit to your CPU if local regulations permit. If you do not have a label, you can make one that lists the new firmware version number. Be careful not to cover any vents or factory-printed markings with the label.

13. Using a programming device, store the application logic, hardware configuration and data to the PLC. This step completes the upgrade.

Common Causes of Failure

1. Cannot Access PC Serial Port

SYMPTOM: A WinLoader dialog box appears saying "Firmware Update Failed. The selected COM port is either busy or does not exist."

REMEDY: If you have chosen a non-existent COM port, select a valid port in the Winloader COM Port box. If the port actually exists, another application may be using it (for example, programming software). Close any application that might be using the port. Then go to step 9.

2. CPU In RUN Mode or Fault Table Not Empty

SYMPTOM: A WinLoader dialog box appears saying "CPU State Mismatch." WinLoader will ask if it's OK for WinLoader to clear fault tables and place PLC in STOP/NOIO mode.

REMEDY: Click "Yes" and proceed.

3. **Connected To Wrong Serial Port**

   SYMPTOM: A WinLoader dialog box appears saying "Update Error: Target device does not support firmware FLASH updates."

   REMEDY: Examine the cable connections and move the cable to serial port 1. Then go to step 9.

4. **WinLoader Stalls or Times Out**

   SYMPTOM: WinLoader progressed beyond the FLASH memory erase step, began loading data blocks, and then displayed an error message or stalled.

   REMEDY: Click the WinLoader "Settings" button and select a lower data rate in the "Update Baud" box. Then click "OK" and go to step 9.

Restarting an Interrupted Firmware Upgrade

1. Carefully check the cables and all connections.
2. Power the PLC main rack off and then on. If a partial or erroneous upgrade was performed, the PLC will power up with the OK and RUN LEDs on the power supply blinking in unison.

Cable Required for Upgrading

GE Fanuc catalog number IC200CBL001 is a cable that will connect a 9-pin PC serial (COM) port to serial port 1 of any VersaMax CPU. If you do not have this cable, any cable can be used that conforms to the wiring shown in the ***RS-232 Point to Point Connection*** diagram on page 4-13 of the *VersaMax CPU User's Manual*, GFK-1502C. Compatible cables are often sold in office supply and electronics stores. They are sometimes labeled as serial mouse extension cables.

Another option is to use the cable from the RS-232/RS-422 converter kit (GE Fanuc catalog number IC690ACC901) together with a "male-to-male" DB9 gender changer. This kind of adapter can often be purchased from office supply or electronics stores, and is also available online from RadioShack.com® as catalog number 26-231.

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