INSTRUCTIONS FOR UPGRADING PLC ETHERNET MODULE

IC698ETM001 WITH NEW FIRMWARE
IC695ETM001 WITH NEW FIRMWARE

The PACSystems RX7i™ and/or PACSystems RX3i™ Ethernet Module has operating firmware stored in FLASH memory. The firmware upgrade and WinLoader update utility for the Ethernet Module is provided in the upgrade ZIP file. The WinLoader update utility is a Windows-based program that controls downloading the new firmware from the upgrade file to the FLASH memory on the target PLC module. WinLoader requires Windows 95/98/ME, Windows NT 4.0, Windows 2000, or Windows XP. The hardware required to run these operating systems is also adequate to run WinLoader.
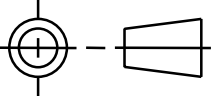
To upgrade the Ethernet module, WinLoader is physically connected to a serial port on the PLC CPU. The PLC CPU acts as a gateway to pass firmware upgrade data to/from the Ethernet module.

NOTE: The instructions provided outline a specific procedure that MUST be followed in sequence. If the procedure for some reason is not followed, please contact the GE Intelligent Platforms Hotline for help in upgrading this PLC module.

PLEASE READ ALL INSTRUCTIONS COMPLETELY PRIOR TO STARTING THE FIRMWARE UPDATE PROCEDURE.

TO INSTALL THE NEW FIRMWARE, PERFORM THE FOLLOWING STEPS:

1. Place the PLC in STOP/NOIO Mode, by setting the Run Stop Switch to the "STOP" position.

2. Clear the configuration in the PLC CPU. This will set the PLC CPU serial port to default values: 19200 baud, 8 bits per char, odd parity, and 1 stop bit. If the serial port is already set to these default values then this step is not necessary.

3. Clear any faults in the PLC.

4. Close any applications (including PLC programming applications) that may be using the COM ports of your PC.

5. Connect the serial port of your computer to the RS-232 Serial Port on the PLC CPU (COM 1). Use a standard 9-pin female to male RS-232 Serial Cable to connect your PC to your PLC CPU. (Note: the upgrade will also work from the RS-485 serial port (COM 2)).

6. Unzip all of the files in the upgrade ZIP file to a new directory on your hard drive and execute the upgrade software from that location.

7. Invoke the WinLoader ("WinLoader.exe") software package by double clicking on its icon in the location determined by the previous step.

UNLESS OTHERWISE NOTED	SIGNATURES	DATES	
DIMENSIONS ARE IN INCHES/MM	DRAWN		
TOLERANCES ON: 2 PL DECIMALS 3 PL DECIMALS ANGLES= FRACTIONS=	CHECKED		TITLE
	ENGRG		**INSTALLATION INSTRUCTIONS**
THIRD ANGLE PROJECTION	ISSUED		

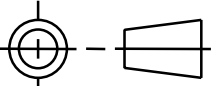|	DIST 621		SIZE **A**	GEGS NO	DWG NO
	VERSION LEVEL		SCALE		SHEET 1 OF 1

8. Check the "Advanced" box in the WinLoader window.

9. WinLoader automatically defaults to the last directory accessed the last time WinLoader was invoked. So make sure the correct directory is selected (use the "drop-down" arrow to verify the directory you are in).

    Click on the top icon (dat) in the "Firmware File Section" and choose the appropriate .dat firmware file from the update directory. The icon will turn green when a valid file is selected.

10. Select the serial port on your computer you are using to communicate with the PLC. (ex: "COM1")

11. Change the Rack and Slot values to specify the location of the Ethernet module to receive the firmware upgrade.

12. Begin the firmware upgrade by single clicking the "Update" button. When the upgrade begins, the "EOK", "LAN", and "STAT" LEDs on the specified Ethernet module will blink in unison. These LEDs continue to blink in unison while the Ethernet firmware is being updated. WinLoader's status bar shows the update status during the firmware update process.

13. Upon successful completion of the firmware upgrade, the Ethernet module is automatically restarted. The WinLoader utility displays a dialog indicating the final status of the update. If the update was successful, and you have no other units to update, indicate that another device is NOT to be updated by clicking the "No" button. If you do have additional units to update, power cycle the CPU, then click the "Yes" button and follow this procedure again. If the update was not successful, see the "Common Causes of Failure" section below to determine how to correct the problem.

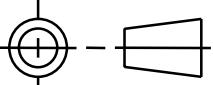## RESTARTING AN INTERRUPTED FIRMWARE UPGRADE

1. Turn the PLC CPU off and back on.

2. Close the WinLoader utility and then restart it.

3. If a partial or erroneous download was performed, the Ethernet module may power up with the "EOK," "LAN," and "STAT" LEDs blinking in unison. If so, begin again at step six of the installation instructions; otherwise begin again at step one.

UNLESS OTHERWISE NOTED	SIGNATURES	DATES				
DIMENSIONS ARE IN INCHES/MM	DRAWN					
TOLERANCES ON: 2 PL DECIMALS 3 PL DECIMALS ANGLES= FRACTIONS=	CHECKED		TITLE			
	ENGRG			**INSTALLATION INSTRUCTIONS**		
THIRD ANGLE PROJECTION	ISSUED					
	DIST 621		SIZE **A**	GEGS NO	DWG NO	
	VERSION LEVEL		SCALE		SHEET 2	OF 2

COMMON CAUSES OF FAILURE

1. **PLC is not in STOP/NOIO mode**. SIDE EFFECTS: A WinLoader dialog box appears stating there is a "CPU STATE MISMATCH". REMEDY: WinLoader asks if it's OK to clear fault tables and place PLC in STOP/NOIO mode. Click NO – Winloader will indicate it has aborted. Use a PLC programmer to clear the fault tables and to put the PLC in STO/NOIO mode. Attempt to upgrade firmware again using Winloader.

2. **Connected to wrong serial port.** SIDE EFFECTS: A WinLoader dialog box appears stating the "FIRMWARE UPDATE FAILED." It lists several possible reasons why the firmware update failed. REMEDY: Make sure the serial cable is connected to the RS-232 Serial Port (COM 1) and the correct COM port of the PC (should match COM port indicated on WinLoader screen), turn the PLC CPU off and back on, and start the process again.

3. **COM port on computer already in use.** SIDE EFFECTS: A WinLoader dialog box appears stating the "FIRMWARE UPDATE FAILED" and the selected COM port is either busy or does not exist. REMEDY: Close any other applications (including PLC programming applications) and ensure the serial cable is connected to correct COM port on the PC and start the upgrade process again.

4. **Run Stop Switch in the "RUN" position.** SIDE EFFECTS: A WinLoader dialog box appears stating the "FIRMWARE UPDATE FAILED." It lists several possible reasons why the firmware update failed. REMEDY: Set the Run Stop Switch to the "STOP" position, turn the PLC CPU off and back on, and start the process again.