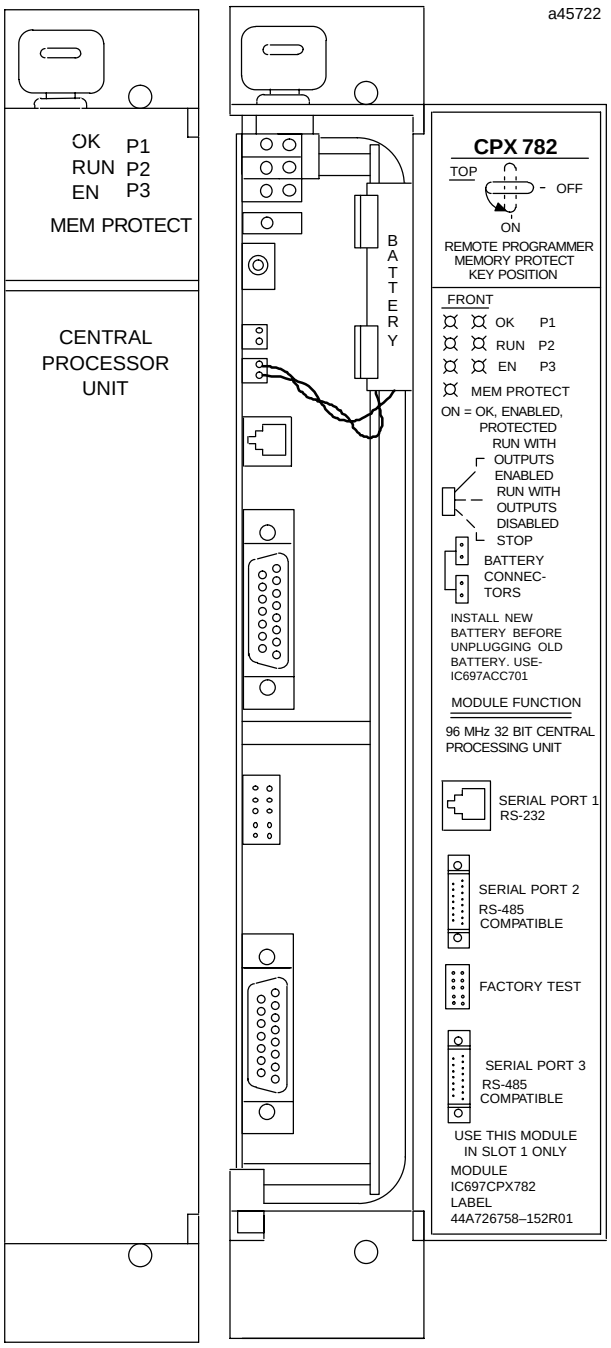
GFK-1431F
*November 1999*

# 96 MHz, 32-Bit, Floating Point, 1 Mbyte Memory Central Processing Unit

## Features

- Single slot CPU with three serial ports
- Provides 1 Mbyte of battery-backed memory in the same slot
- Contains 256K of non-volatile user flash memory
- Supports BMA in release 7.92 and later
- Supports floating point calculations
- 12K inputs and outputs (any mix), and up to 8K analog I/O
- 0.4 microseconds per boolean function
- 96 MHz, 80486DX4 microprocessor
- Supports IC66 (can be IC660 or IC661) and IC697 I/O
- Programmed by MS-DOS® software products, or Windows® based software products running on Windows® 95 or Windows NT,® over Ethernet TCP/IP, or through an SNP port
- Configurable data and program memory
- Battery-backed calendar clock
- Three position operation mode switch
- Password controlled access
- Remote programmer keyswitch memory protection
- Seven status LEDs
- Software configuration (No DIP switches or jumpers)
- Reference information inside front door
- In-system upgradable firmware
- Three Series Ninety Protocol (SNP Slave) ports




## Functions

The CPX 782 is a single slot PLC CPU that is programmed and configured by MS-DOS or Windows based programming software to perform real time control of machines, processes, and material handling systems. It communicates with I/O and smart option modules over a rack-mounted backplane using the VME C.1 Standard format.

Supported option modules include LAN Interface modules, Programmable Coprocessor, Alphanumeric Display Coprocessor, Bus Controller for IC660/661 I/O products, Communications modules, I/O Link Interface, and all of the IC697 family of discrete and analog I/O modules.

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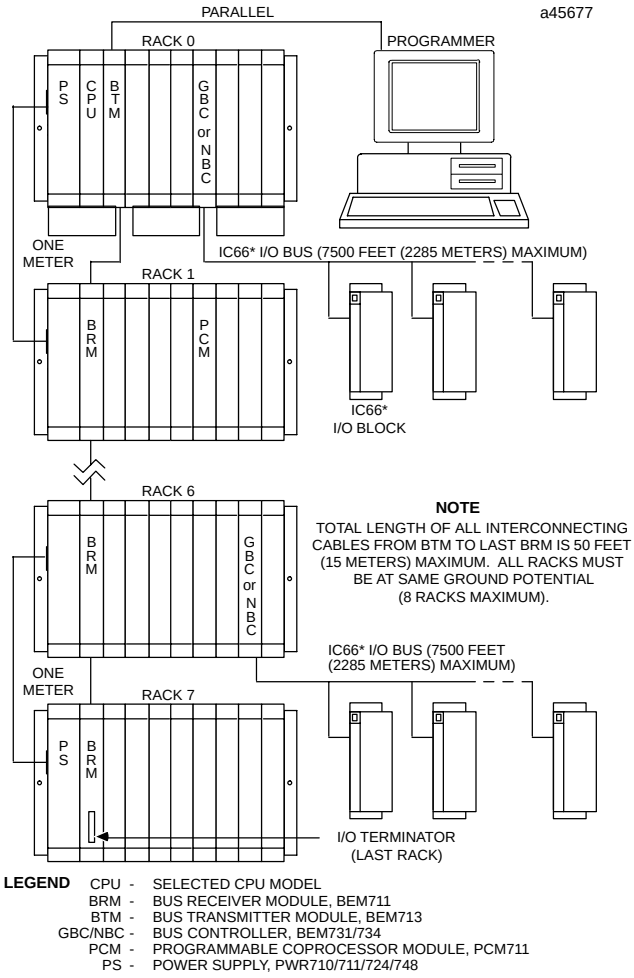



**Figure 1. PLC System Configuration Example**

## User RAM Memory

The CPX782 has a built-in memory board with 1 Mbyte of battery-backed CMOS RAM memory for user data (program, configuration, and register data) storage.

## User Flash Memory

The CPX782 has 256K of built-in flash memory for user data (program, configuration, and register data) storage. Use of this flash memory is optional.

## Firmware Storage in Flash Memory

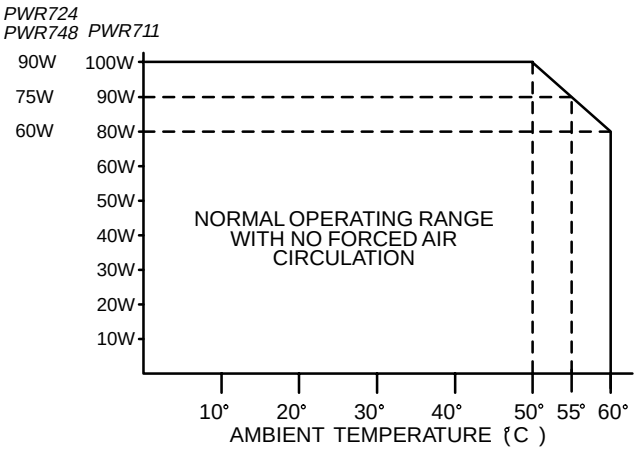
This CPU uses non-volatile flash memory for storing the operating system firmware . This allows firmware to be updated without disassembling the module or replacing EPROMs. The operating system firmware is updated by connecting a PC compatible computer to the module's serial port and running the software included with the firmware upgrade kit.

## Operation, Protection, and Module Status

Operation of this module can be controlled by the three-position RUN / STOP switch or remotely by an attached programmer and programming software. Program and configuration data can be locked through software passwords or manually by the memory protect keyswitch. When the key is in the *protected* position, program and configuration data can only be changed by a programmer connected parallel only (to the Bus Transmitter module). The status of a CPU is indicated by the seven green LEDs on the front of the module.

## Operating Temperature

For continuous operation in a minimum size enclosure with no air flow, derating is necessary for the 100W AC / DCPower Supply (PWR711), and the 90W DC Power Supplies (PWR724 / PWR748) as shown in the chart below.




## Installation

It is the responsibility of the OEM, system integrator, or end user to properly install the PLC equipment for safe and reliable operation. Product manuals provide detailed information about installation, startup, and proper use of the PLC equipment. The installation manual, shipped with your PLC programming software, describes how to properly install the equipment.

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If the PLC installation must comply with supported standards, such as FCC or CE Directives, please refer to the *Installation Requirements for Conformance to Standards*, shipped with the PLC programming software, for additional guidelines.

Installation should not be attempted without referring to the applicable *Programmable Controller Installation Manual*.

- Connect the battery to either of the battery connectors on the module (see Figure 2).
- Put the toggle switch in the STOP position.
- Put the keyswitch in the *Memory Protection OFF* position.
- Make sure that rack power is off.
- Install the CPX 782 module in slot 1 of rack 0 (see Figure 1).
- Turn on power.

The module should power up and the top left (**OK**) LED should blink. When the diagnostics have completed successfully, the top left LED stays on and the second (**RUN**) and third (**EN**) LEDs are off. The fourth (bottom left) LED (**MEM PROTECT**) is off if the keyswitch is in the OFF position. The CPU is now ready to be programmed (if connected parallel, the CPU can be programmed regardless of key position).

After the program has been verified the toggle switch can be moved to the appropriate operation mode position; RUN WITH OUTPUTS ENABLED, RUN WITH OUTPUTS DISABLED, or STOP. The seven LEDs indicate the position of the toggle switch, memory protection status, status of serial port activity, and the state of the program.

## Programmer Connection, Parallel

For a parallel interface (MS-DOS programmer only) the programmer is connected to the top port on the Bus Transmitter Module (IC697BEM713) as shown in Figure 1. Consult the applicable *Programming Software User's Manual* for a description of programming functions.

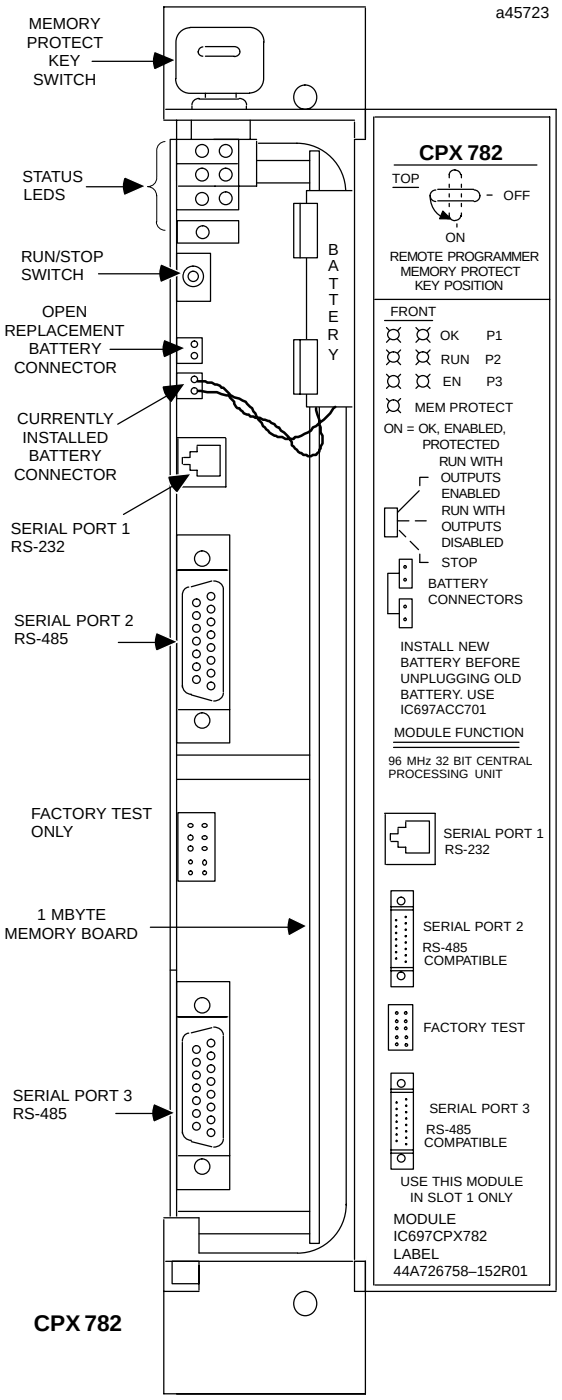


**Figure 2. CPX 782 - Location of Major Features**