GE Series 90-70 Series Service Manual

IC697CPU780

1. Description

The IC697CPU780 is a CPU module from the Series 90-70 Programmable Logic Controller (PLC) platform that is formerly manufactured by GE Fanuc, now under Emerson Automation.

This CPU mainly features an embedded 80386DX microprocessor with a clock speed of 16 MHz with a Boolean execution time of 0.4 microseconds per boolean function.

2. Specifications

Specification	Value
Brand	**GE Fanuc**
Series	**Series 90-70**
Manufacturer	**GE Fanuc (Former); Emerson Automation (Current)**
Part	**Number IC697CPU780**
Series	**Series 90-70**
Product	**type CPU module**
Part	**Number IC697CPU780**
Compatibility	**GE Fanuc 9-70 PLCs**
Product	**Description Single slot CPU**
Hot	**standby operation Yes**
Specific	**Application Hot Standby configuration**
Clock	**speed 16 megahertz**
Processor	**type 80386DX microprocessor**
Microprocessor	**80386DX**
Discrete	**I/O memory 12 KB**
Maximum	**memory 512 kilobytes**
Analog	**I/O memory 8 KB**
Current	**draw 1.6 Amps**
Boolean	**Execution speed 0.4 microseconds per boolean function**
Voltage	**input 5 Volts DC**
Floating	**Point math Supported**
Communication	**port RS485 interface**
LED	**indicators Module OK, RUN, Outputs enabled**
Lithium	**Battery IC697ACC701**
Module	**location slot 1 of rack 0**
VME	**System designed to support the VME standard C.1**
The	**IC697CPU780 is a Central Processing Unit (CPU) module from the Series 90-70 Programmable Logic Controller (PLC) platform that is formerly manufactured by GE Fanuc, now**

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Technical specifications for IC697CPU780

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Series Series 90-70

Manufacturer GE Fanuc (Former); Emerson Automation (Current)

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Voltage input 5 Volts DC

Floating Point math Supported

Communication port RS485 interface

LED indicators Module OK, RUN, Outputs enabled

Lithium Battery IC697ACC701

Module location slot 1 of rack 0

VME System designed to support the VME standard C.1

The IC697CPU780 is a Central Processing Unit (CPU) module from the Series 90-70 Programmable Logic Controller (PLC) platform that is formerly manufactured by GE Fanuc, now under Emerson Automation. This CU module is a single slot CPU that is specifically designed for use in redundant controller configuration, compatible in applications that are critical, and requires high availability. With a redundant or hot-standby configuration, a primary CPU is synched to a secondary CPU. Once the primary CPU fails or transitions from RUN to STOP mode, bumpless switching of control automatically initiates resulting in no downtime. The IC697CPU780 mainly features an 80386DX microprocessor with a processing speed of 16 MHz while the Boolean execution time is 0.4 microseconds per function. It is capable of handling up to 12Kbytes of inputs and outputs of any combination and up to 8 K analog input and output signals. It supports floating-point math calculations and other advanced instruction sets. The IC697CPU780 also features Four (4) status LED indicators that depict Module OK, RUN, Outputs enabled and memory protect activated. Specific redundancy features of the IC697CPU780 include automatic synchronization of CPUs, online programming and online repair, one scan switching, and configurable backup data size. With redundant configuration, a single point of failure is eliminated. This module comes with an embedded RS485 communication port, a lithium battery used for the RAM battery, and a clock. This battery has a catalog number of IC697ACC701 with a shelf life of 10 years at20 Degree Celsius and is capable of retaining data for a duration of Six (6) months.

The IC697CPU780 module is an expandable CPU module that is made for hot standby CPU applications. It can be used in PLCs from GE Fanuc which form part of the Series 90-70 family of GE PLCs. Redundancy features supported by the IC697CPU780 module include bumpless switching between PLCs, CPU synchronization, 20 milliseconds of scan extension, one scan switching, one-line repair, and programing and memory parity and checksums. The other standard features supported by the IC697CPU780 module include a 16 megahertz 80386DX processor, 12 thousand inputs and outputs, 8 thousand analog I/O, up to 512 kilobytes of memory, software configuration, password-controlled access, and 4 status LEDs. The options for system memory include 128 kilobytes, 256 kilobytes, 256 kilobytes with 256 kilobytes of non-volatile flash, or 512 kilobytes of total system memory. The shelf life of the battery which provides backup power to the system memory is 10 years at 68 degrees Fahrenheit. The IC697CPU780 module draws 1.6 Amps of current from the system bus. The module is compatible with 5 Volts DC input voltage. The IC697CPU780 module is primarily used as a CPU in a hot standby CPU redundancy system which requires 2 CPUs: 1 CPU in the primary PLC and 1 CPU in the secondary PLC. The primary and backup CPUs need to be configured separately. One is configured as the primary CPU and the other is configured as the secondary CPU. Communication between the primary and secondary PLCs is achieved through the use of bus transmitter modules and redundancy communication modules. The serial port on the IC697CPU780 module with a 15-pin D-connector can be used to interface with the RS-485 serial port for making serial connections to a programming computer.