GFK-1439C
November 1999

96 MHz, 32-Bit Floating Point, 1 MByte Fast Memory Central Processing Unit for CPU Redundancy Applications

Features

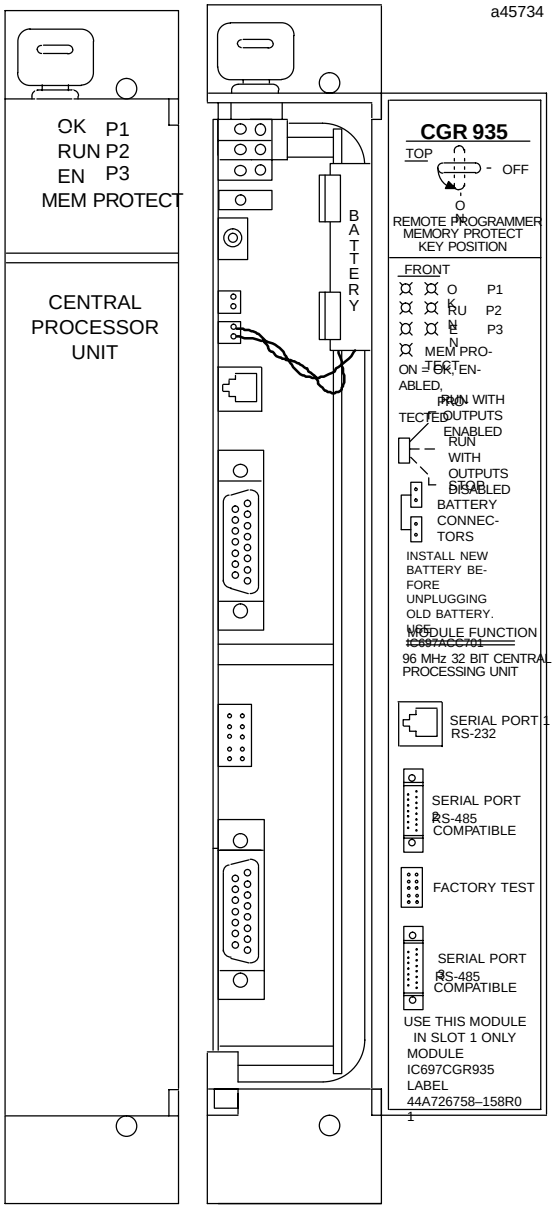
- Required for CPU redundancy applications
- Supports floating point calculation
- Single slot CPU
- 12K inputs and 12K outputs (any mix)
- Up to 8K analog I/O
- 0.4 microseconds per boolean function
- 96 MHz, 80486DX4 microprocessor
- Supports IC660/IC661 and IC697 I/O products
- Programmed by MS-DOS® or Windows® based software products
- Supports 1 Mbyte of battery-backed fast CMOS RAM memory in the same slot
- Configurable data and program memory
- Battery-backed calendar clock
- Three position operation mode switch
- Password controlled access
- Keyswitch memory protection
- Seven status LEDs
- Software configuration (No DIP switches or jumpers to set)
- Reference information inside front door
- Three Series Ninety Protocol (SNP Slave) communications ports

Redundancy Features

In addition to the above features, the CGR935 supports the redundancy features listed below.

- Bumpless switching between redundancy PLCs
- Synchronization of CPUs
- Redundant backup communications
- 4.7 ms scan extension
- One scan switching (in most cases)
- Configurable backup data size
- On-line programming
- On-line repair
- No single point of failure (except for IC66*I/O Blocks and bus stubs)
- Same or different program in Primary and Secondary PLCs
- Program control switching
- Symptom status bits and fault tables
- Memory parity and checksums

- Common I/O on IC660/IC661 bus
- Manual switching with pushbutton switch on Redundancy Communications Module



® MS-DOS and Windows are registered trademarks of Microsoft Corporation.

GFK-1439C
November 1999

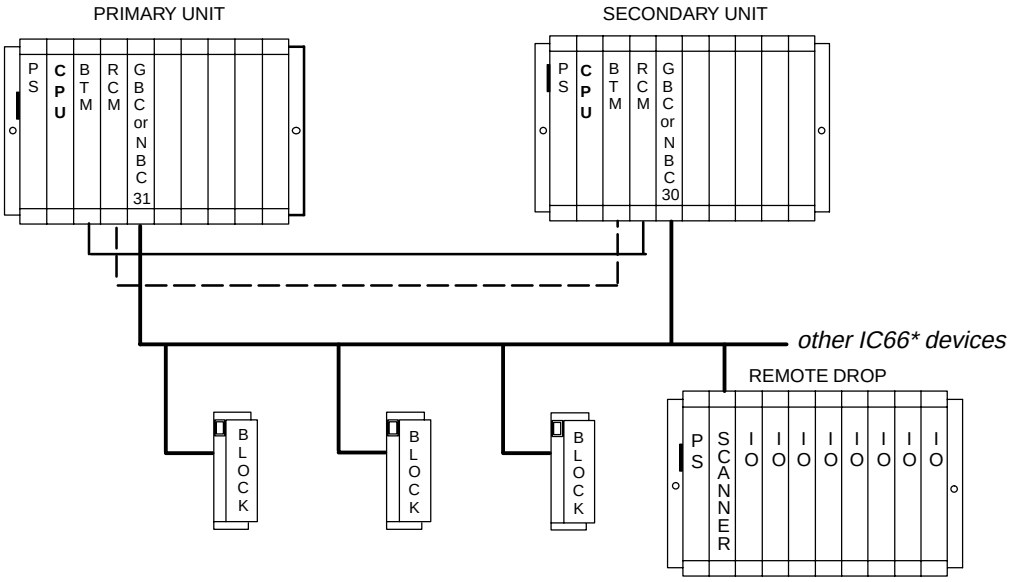
96 MHz, 32-Bit Floating Point, 1 MByte Fast Memory Central Processing Unit for CPU Redundancy Applications

Functions

The CGR935 is a single slot programmable controller CPU which allows floating point calculations and is required for CPU redundancy applications. The CGR935 is programmed and configured by MS-DOS or Windows programming software to perform real time control of machines, processes and material handling systems.

The CGR935 communicates with I/O and smart option (specialty) modules over the rack mounted backplane (IC697CHS750, 790, 791) by way of the VME C.1 Standard format.

Supported option modules include all IC697 LAN interface modules, several Coprocessor modules, Bus Controller for IC660/IC661 I/O, Communications modules, and all of the IC697 family of discrete and analog I/O modules.



PS	*Power Supply*	*IC697PWR710/711/724/748*
CPU	*Central Processor Unit*	*IC697CGR935*
BTM	*Bus Transmitter Module*	*IC697BEM713*
RCM	*Redundancy Communications Module*	*IC697RCM711*
GBC or NBC	*IC66* Bus Controller*	*IC697BEM731/734*
BLOCK	*IC66* I/O Block*	*IC66*XXXYYY*
SCANNER	*Remote I/O Scanner*	*IC697BEM733/735*

Figure 1. Typical Hot Standby CPU Redundancy System Configuration

User Memory

Program and data memory for the CGR935 is provided by a memory board with 1 MByte of battery-backed Fast CMOS RAM. This memory board is an integral part of the CGR935 and is included with the module. This memory board provides error checking through a CPU checksum routine with detected parity errors being reported to the CPU as they occur. Starting with firmware release 7.85 (October, 1998), increased program memory size was made available. See the *Important Product Information* (IPI) sheet, GFK-1440, that ships with the module for details.

Operation, Protection, and Module Status

Operation of this module may 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 through parallel communications (that is, via the Bus Transmitter module). The status of the CPU is indicated by the seven green LEDs on the front of the module.