GE Fanuc IC695CRU320

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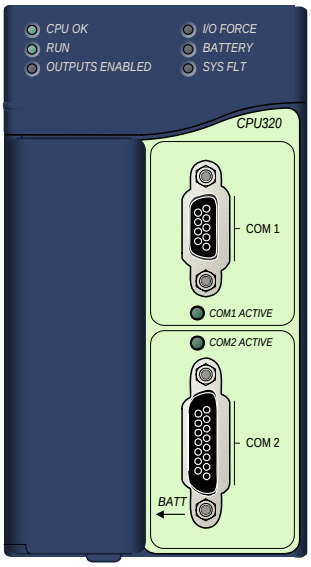
Rx3i PacSystem

New RX3i 1Ghz Redundancy CPU With Two Serial Ports In Stock!

IC695CPU320/CRU320 Models



- IC695CPU320: 1 GHz CPU microprocessor
- IC695CRU320: 1 GHz CPU microprocessor with redundancy

Serial Ports

The CPU has two independent, on-board serial ports, accessed by connectors on the front of the module. Ports 1 and 2 provide serial interfaces to external devices. Either port can be used for firmware upgrades. For serial port pin assignments and details on serial communications, refer to chapter 12.

Indicators

The eight CPU LEDs indicate the operating status of various CPU functions.

LED State ● On ✱ Blinking ○ Off			***CPU Operating State***
●	**CPU OK**	On	CPU has passed its powerup diagnostics and is functioning properly.*
○	**CPU OK**	Off	CPU problem. RUN and OUTPUTS ENABLED LEDs may be blinking in an error code pattern, which can be used by technical support for troubleshooting. This condition and any error codes should be reported to your technical support representative.
✱	**CPU OK**, **OUTPUTS ENABLED, RUN**	Blinking in unison	CPU is in boot mode and is waiting for a firmware update through a serial port.
✱	**OK**	Blinking Other LEDs off.	CPU in Stop/Halt state; possible watchdog timer fault. Refer to the fault tables. If the programmer cannot connect, cycle power with battery attached and refer to fault tables.
○	**RUN**	Off	CPU is in Stop mode.
●	**OUTPUTS ENABLED**	On	Output scan is enabled.
○	**OUTPUTS ENABLED**	Off	Output scan is disabled.
●	**I/O FORCE**	On	Override is active on a bit reference.
●	**BATTERY**	On	Battery has failed or is not attached. ***Note:*** To provide reliable backup, routine maintenance should include scheduled battery replacement. See "Specifications" on page 2-15.
●	**SYSTEM FAULT**	On	CPU is in Stop/Faulted mode because a fatal fault has occurred.
✱	**COM1** **COM2**	Blinking Blinking	Signal activity on port.

*After initialization sequence is complete.

Specifications – CPU320

For environmental specifications, see Appendix A of the *PACSystems RX3i System Manual,* GFK-2314.

Battery: Memory retention	Estimated 30 days using an IC693ACC302 Auxiliary Battery Module at 20ºC. For details on the operation of the Auxiliary Battery Module, refer to the datasheet, GFK-2124. **Note:** The IC698ACC701 Lithium Battery Pack is ***not compatible*** with the CPU320.
Program storage	Up to 64 Mbytes of battery-backed RAM 64 Mbyte of non-volatile flash user memory
Power requirements	+3.3 VDC: 1.0 Amps nominal +5 VDC: 1.2 Amps nominal
Operating Temperature	0 to 60°C (32°F to 140°F)
Floating point	Yes
Boolean execution speed, typical	0.047 ms per 1000 Boolean instructions
Time of Day Clock accuracy	Maximum drift of ±2 seconds per day. Can be synchronized to an Ethernet time master within ±2ms of the SNTP time stamp.
Elapsed Time Clock (internal timing) accuracy	±0.01% maximum
Embedded communications	RS-232, RS-485
Serial Protocols supported	Modbus RTU Slave, SNP, Serial I/O
Backplane	Dual backplane bus support: RX3i PCI and 90-30-style serial
PCI compatibility	System designed to be electrically compliant with PCI 2.2 standard
Program blocks	Up to 512 program blocks. Maximum size for a block is 128KB.
Flash memory endurance rating	100,000 write/erase cycles minimum
Memory (For a detailed listing of memory areas, refer to chapter 7.)	*%I and %Q:* 32Kbits for discrete *%AI and %AQ:* configurable up to 32Kwords *%W:* configurable up to the maximum available user RAM Managed memory (*Symbolic and I/O variables combined):* configurable up to 64 Mbytes

CRU320 Specifications

Note: For environmental specifications and compliance to standards (for example, FCC or European Union Directives), refer to the *PACSystems RX3i System Manual,* GFK-2314.

Battery: Memory retention	Estimated 30 days using an IC693ACC302 Auxiliary Battery Module at 20ºC. For details on the operation of the Auxiliary Battery Module, refer to the datasheet, GFK-2124. **Note:** The IC698ACC701 Lithium Battery Pack is ***not compatible*** with the CRU320 and must not be used.
Program storage	Up to 64 Mbytes of battery-backed RAM 64 Mbytes of non-volatile flash user memory
Power requirements	+3.3 VDC: 1.0 Amps nominal +5 VDC: 1.2 Amps nominal
Operating Temperature	0 to 60°C (32°F to 140°F)
Floating point	Yes
Boolean execution speed, typical	0.047 ms per 1000 Boolean instructions
Time of Day Clock accuracy	Maximum drift of 2 seconds per day
Elapsed Time Clock (internal timing) accuracy	0.01% maximum
Embedded communications	RS-232, RS-485
Serial Protocols supported	Modbus RTU Slave, SNP Slave, Serial I/O
Backplane	Dual backplane bus support: RX3i PCI and 90-30-style serial
PCI compatibility	System designed to be electrically compliant with PCI 2.2 standard
Program blocks	Up to 512 program blocks. Maximum size for a block is 128KB.
Memory	*%I and %Q:* 32Kbits for discrete *%AI and %AQ:* configurable up to 32Kwords *%W:* configurable up to the maximum available user RAM Symbolic: configurable up to 64 Mbytes
Flash memory endurance rating	100,000 write/erase cycles minimum
Memory error checking and correction (ECC)	Single bit correcting and multiple bit checking.
Switchover Time*	Maximum 1 logic scan, minimum 3.133 msec.
Typical Base Sweep Time (Reference Data Transfer List Impact)**	3.66 msec: 1K Discrete I/O, 125 Analog I/O and 1K Registers 3.87 msec: 2K Discrete I/O, 250 Analog I/O and 2K Registers 4.30 msec: 4K Discrete I/O, 500 Analog I/O and 4K Registers 5.16 msec: 8K Discrete I/O, 1K Analog I/O and 8K Registers
Maximum amount of data in redundancy transfer list	Up to 2 Mbytes
Number of redundant redundancy links supported	Up to two IC695RMX128 synchronization links are supported.

* Switchover time is defined as the time from failure detection until backup CPU is active in a redundancy system.

** Symbolic variable and Reference data can be exchanged between redundancy controllers. Up to 2 Mbytes of data is available for transfer.

Error Checking and Correction, IC695CRU320

Rx3i Redundancy CPUs provide error checking and correction (ECC), which results in slightly slower system performance, primarily during power-up, because it uses an extra 8 bits that must be initialized.

For details on ECC, refer to the *PACSystems Hot Standby CPU Redundancy User's Guide,* GFK-2308.

Note: Multiple Recoverable Memory Error faults may be generated when a single-bit ECC error is detected. When a single-bit ECC error is detected, the value presented to the microprocessor is corrected. However, the value stored in RAM is not corrected until the next time the microprocessor writes to that RAM location.