PACSystems RX3i

IC695CPE310-ABAJ

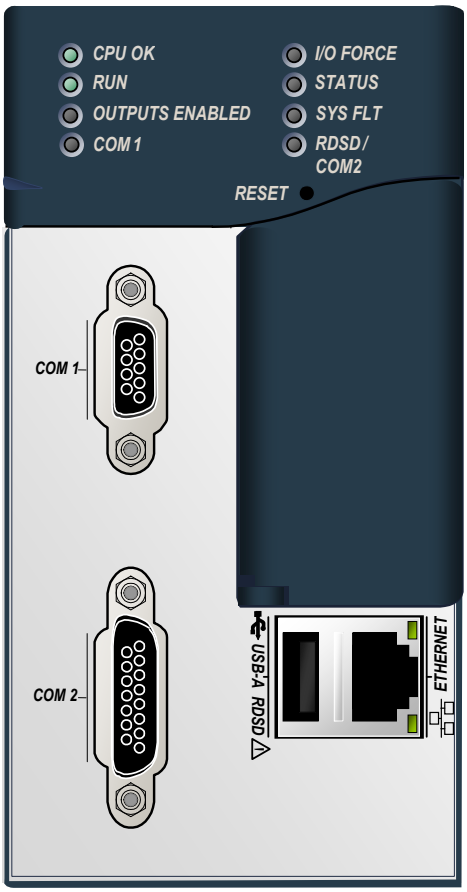
Central Processing Unit

GFK-2713J
August 2013

The PACSystems* RX3i CPE310 can be used to perform real time control of machines, processes, and material handling systems. The CPU communicates with the programmer via the internal Ethernet port or a serial port. It communicates with I/O and Intelligent Option modules over a dual PCI/serial backplane.

Features

- Contains 10 Mbytes of user memory and 10 Mbytes of non-volatile flash user memory.
- Battery-less retention of user memory.
- Optional Energy Pack on system power loss powers CPU long enough to write user memory to non-volatile storage (NVS).
- Configurable data and program memory.
- Programming in Ladder Diagram, Structured Text, Function Block Diagram, and C.
- Supports auto-located Symbolic Variables that can use any amount of user memory.
- Reference table sizes include 32Kbits for discrete %I and %Q and up to 32Kwords each for analog %AI and %AQ.
- Supports most Series 90-30 modules and expansion racks. For supported I/O, Communications, Motion, and Intelligent modules, see the *PACSystems RX3i Hardware and Installation Manual,* GFK-2314.
- Supports up to 512 program blocks. Maximum size for a block is 128KB.
- Two serial ports: RS-485 and RS-232.
- Embedded Ethernet interface supports up to 32 simultaneous SRTP Server connections, up to 16 simultaneous Modbus/TCP Server connections, and up to 16 simultaneous communications channels of either SRTP Channels or Modbus/TCP Client channels. For details, see *TCP/IP Ethernet Communications,* GFK-2224.
- The rack-based Ethernet Interface module (IC695ETM001) supports a complete set of Ethernet functionality. For details, see *TCP/IP Ethernet Communications,* GFK-2224.
- Time synchronization to SNTP Time Server on Ethernet network when used with a rack-based Ethernet module (IC695ETM001) version 5.0 or later.
- Ability to display serial number and date code in programmer Device Information Details.
- Ability to transfer applications to and from USB 2.0 A-type RDSDs (removable data storage devices).
- Compliant with EU RoHS Directive 2002/95/EC using the following exemptions identified in the Annex: 7(a), 7(c)-I and III, and 15.



Ordering Information

Description	Catalog Number
RX3i 1.1 GHz CPU	IC695CPE310
Standard Pwr Supplies 120/240VAC, 125VDC 24VDC	 IC695PSA040 IC695PSD040
Multifunctional Pwr Supplies 120/240 VAC, 125 VDC 24 VDC	 IC695PSA140 IC695PSD140
Rx3i Universal Backplane 7 Slot 12 Slot 16 Slot	 IC695CHS007 IC695CHS012 IC695CHS016
Real Time Clock Battery	IC690ACC001
RX3i CPU Energy Pack	IC695ACC400
Energy Pack Cable	IC695CBL001
Note: For Conformal Coat option, please consult the factory for price and availability.	

Specifications

Memory retention	The non-volatile storage (NVS) can retain data indefinitely without loss of data integrity. When CPU power is restored, data stored in NVS is transferred back to user memory and the NVS is cleared. An optional IC695ACC400 Energy Pack powers the CPU long enough to write its user memory contents to non-volatile storage during a system power loss. For details on the Energy Pack, refer to publication GFK-2724.
Program storage	10 Mbytes of non-volatile flash user memory.
Power requirements, nominal	+3.3 VDC: 1.0 A +5 VDC: 1.0 A (up to 1.5 A if USB is fully loaded with 0.5 A) +24 VDC: 0.5A at startup, 0.1 A during run time (Applies only if Energy Pack is connected to the CPE310.)
Operating Temperature	0 to 60°C (32°F to 140°F)
Floating point	Yes
Time of Day Clock accuracy	Maximum drift of 2 seconds per day
Elapsed Time Clock (internal timing) accuracy	0.01% maximum
Real Time Clock battery	Estimated life of 5 years; must be replaced every 5 years on a regular maintenance schedule.
Embedded serial communications	RS-232 (COM1) RS-485 (COM2)
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 memory Symbolic: configurable up to 10 Mbytes
Embedded Ethernet interface specifications	
Max. no. of connections	Up to 32 simultaneous SRTP Server connections, up to 16 simultaneous Modbus/TCP Server connections, and up to 16 simultaneous communications channels of either SRTP Channels or Modbus/TCP Client channels
Ethernet data rate	10Mb/sec and 100Mb/Sec
Physical interface	10BaseT RJ-45
Remote Station Manager over UDP	Yes. Refer to the *Station Manager Manual,* GFK-2225J or later for supported commands.
Configurable Advanced User Parameters	Yes. Refer to *TCP/IP Ethernet Communications for PACSystems*, GFK-2224K or later for supported AUPs.
For environmental specifications and compliance to standards (for example, FCC or European Union Directives), refer to the *PACSystems RX3i Hardware and Installation Manual,* GFK-2314.	

Note: The CPE310 processor has been upgraded from a 300MHz Celeron to a 1.1 GHz Atom processor. There have been many associated changes to the performance compared to the CPU310. For performance data, refer to the *PACSystems CPU Reference Manual,* GFK-2222.