MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

EMERSON

IC695CPE302

CPE302 PROGRAMMABLE AUTOMATION CONTROLLER

Used with the applicable PACSystems RX3i configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Emerson PACSystems RX3i controller overview

PACSystems™ RX3i Controllers

Industrial Internet Ready

- Simple configuration, maintenance and operation
- Single point of connect no matter what distance
- High-speed communication for real-time control
- High Availability support for maximum up-time



Introduction

Equipment builders are continuously looking for ways to improve the performance and flexibility of their equipment while reducing size and complexity. Fast, easy-to-configure connectivity to Emerson's PACSystems controllers and extensive range of I/O options enables scalable machine automation and highly distributed modular machine designs. The end result is high performance automation for the industrial internet.

High Performance

Analyze and improve even the most complex application right at the source. The latest RX3i Controllers now offer multiple processing cores, allowing you to do more with your Controllers. A large working memory in every high-speed RX3i Controllers lets you store more data and access it faster than ever before. The RX3i offers premier, high-speed performance and data handling across any multi-disciplined control system. Whether you're accessing consistent gigabit speed data across the backplane or over fiber, kilometers away, the RX3i Controllers are built for rapid, reliable performance.

PROFINET Advantage

PROFINET® I/O solutions can provide productivity and performance advantages for virtually any type of control application in a range of industries. Connect to any of Emerson's purpose-built I/O families through a PROFINET interface for advanced flexibility and performance.

Best Availability

Can your process controller keep up with system demands?
Many of today's controllers take hundreds of milliseconds or more to switch over in the event of a fault or other system event. Often controllers are also limited in real I/O connections due to bottlenecks in overall data collection. Eliminate delays by combining RX3i and PROFINET to get gigabit speed everywhere and bumpless switchover.
Choose RX3i high availability and prevent unexpected failure and costly downtime.

Flexibility and Scalability

PACSystems provides a vast amount of I/O, communications, and specialty modules to handle a variety of process and discrete applications. It provides one of the best migration paths in the industry with the ability to bring Series 90-30 modules directly into the PACSystems backplane to save rewiring and space. In addition, programs move with ease to the new programming and configuration environment, PAC Machine Edition, getting applications up and running in minutes.

Secure by Design

With defense-in-depth architectures and security built in, we secure assets from potential cyber threats to protect our customers' most important assets. RX3i Controllers prioritize security with technologies such as Trusted Platform Modules (TPM) and digitally signed firmware. Understanding industrial controls are constant targets of cyber threats, we've also designed all RX3i Controllers to protect against harmful man-in-the-middle and denial- of-service attacks as indicated by Achilles Level 2 Certifications. Encrypted communications are executed through pre-installed, pre-licensed OPC UA while a broad suite of cyber-security tools help prevent unauthorized updates.

Processor	Benefit
High performance	• Gigabit communications for faster, higher volume of data for analysis • Latest CPUs offer multi-core processors for reduced latency for more precise data or I/O control • Built-in Ethernet ports and switches reduce application complexity
Simplification	• Store large amounts of data for better system statistics and analysis • Store application files right on the control for fast fingertip access to drawings, debug or startup • information, operational notes, and more • Built-in Ethernet switches with media conversion capability reduce I/O wiring cost and installation time
Security	• Encrypted communications through OPC UA secure access for trusted communications • Trusted Platform Modules (TPM) for hardware authentication • Digitally signed and encrypted firmware for confidence that updates are genuine • Achilles Level 2 Certification ensures reliability • Secure remote firmware update tools keep your equipment up to date without additional risk or windshield time.
PROFINET distributed I/O connectivity	• Open standard for high-speed I/O connectivity • Support for Media Redundancy Protocol (MRP) and PROFINET System Redundancy for maximum robustness • Replace devices without having to reconfigure them for improved uptime

Specifications







Part No.	IC695CPE302	IC695CPE305	IC695CPE310	IC695CPE400 / IC695CPL410	IC695CPE330
Form Factor	Backplane	Backplane	Backplane	Standalone	Backplane
User Memory	2MB	6MB	13MB	64MB	64MB
I/O	• 16k Bits Discrete I/O • 32k Words for Analog I/O	• 32k Bits Discrete I/O • 32k Words for Analog I/O	• 32k Bits Discrete I/O • 32k Words for Analog I/O	• 32k Bits Discrete I/O • 32k Words for Analog I/O	• 32k Bits Discrete I/O • 32k Words for Analog I/O
Energy Pack*	Included	Included	Included	Available	Available
Redundancy Support	Media Redundancy Protocol (MRP) with PNC001	Media Redundancy Protocol (MRP) with PNC001	Media Redundancy Protocol (MRP) with PNC001	• Media Redundancy Protocol (MRP) • PROFINET System Redundancy (PNSR) • Media OPC UA NTSR*	• Media Redundancy Protocol (MRP) • PROFINET System Redundancy (PNSR) • Media OPC UA NTSR*
Ethernet Port	1 - 2 Port switch 10/100/1000	1 - 2 Port switch 10/100/1000	1 - 2 Port switch 10/100/1000	• 1- 10/100/1000 • 2- 2-port switch 10/100/1000	• 1- 10/100/1000 • 1- 2 Port switch 10/100/1000
Ethernet Protocols	• SRTP Client/Server • Modbus TCP/IP • OPC UA • EGD • PROFINET** • DNP3 Outstation** • IEC-61850 Client** • IEC-104 Server** • HART passthrough	• SRTP Client/Server • Modbus TCP/IP • OPC UA • EGD • PROFINET** • DNP3 Outstation** • IEC-61850 Client** • IEC-104 Server** • HART passthrough	• SRTP Client/Server • Modbus TCP/IP • OPC UA • EGD • PROFINET** • DNP3 Outstation** • IEC-61850 Client** • IEC-104 Server** • HART passthrough	• SRTP Client/Server • Modbus TCP/IP • OPC UA OPC UA (Non-Transparent Server Redundancy) • EGD • PROFINET • DNP3 Outstation • HART passthrough	• SRTP Client/Server • Modbus TCP/IP • OPC UA OPC UA (Non-Transparent Server Redundancy) • EGD • PROFINET • DNP3 Outstation** • IEC-61850 Client** • IEC-104 Server** • HART passthrough

PACSystems™ RX3i Controllers

Part No.	IC695CPE302	IC695CPE305	IC695CPE310	IC695CPE400 / IC695CPL410	IC695CPE330
Serial Protocols	• ASCII Serial • Modbus/RTU	• ASCII Serial • Modbus/RTU	• ASCII Serial • Modbus/RTU	• ASCII Serial	• ASCII Serial** • Modbus/RTU**
Remote I/O Devices	• 255 Simplex with PNC001	• 255 Simplex with PNC001	• 255 Simplex with PNC001	CPE400 • 32 Simplex • 20 Redundant • CPE410 • 64 Simplex • 32 Redundant	• 32 Simplex • 20 Redundant • 255 Simplex with PNC001
USB Interface	1 USB-A 2.0	1 USB-A 2.0	1 USB-A 2.0	2 USB-A 2.0****	1 USB-A 2.0
Memory Card	-	-	-	Micro SD***	1 CFast (Very high speed Compactflash)***
Other Interface	1 RS-232	1 RS-232	• 1 RS-232 • 1 RS-485	1 RS-232	-
Environmental	0°C to 60°C (Optional -40°C to +60°C)	0°C to 60°C (Optional -40°C to +60°C)	0°C to 60°C (Optional -40°C to +60°C)	-40°C to 70°C	0°C to 60°C (Optional -40°C to +60°C)
Agency Approvals	UKCA, UL, cUL, RoHS, CCC, FCC, Reach, UL HazLoc C1D2, ATEX Zone 2	UKCA, UL, cUL, RoHS, CCC, FCC, Reach, UL HazLoc C1D2, ATEX Zone 2	UKCA, UL, cUL, RoHS, CCC, FCC, Reach, UL HazLoc C1D2, ATEX Zone 2	UKCA, UL, cUL, RoHS, CCC, FCC, Reach, UL HazLoc C1D2, ATEX Zone 2	UKCA, UL, cUL, RoHS, CCC, FCC, Reach, UL HazLoc C1D2, ATEX Zone 2
Marine	ABS, BV, LR, DNV GL	ABS, BV, LR, DNV GL	ABS, BV, LR, DNV GL	ABS, BV, DNV GL	ABS, BV, DNV GL

Energy Pack provides power during power failure while data is written to NV RAM
* Non-Transparent Server Redundancy
** Requires additional and separate module
*** Available later
**** 1 USB 2.0 for PACEdge, 1 USB 2.0 for PACSystems (available later)

Ordering Information

Part Number*	Description
IC695CPE302	RX3i CPE302 Controller
IC695CPE302LT	RX3i CPE302 Controller, low temperature
IC695CPE305	RX3i CPE305 Controller
IC695CPE305CA	RX3i CPE305 Controller, conformal coated
IC695CPE305LT	RX3i CPE305 Controller, low temperature
IC695CPE310	RX3i CPE310 Controller
IC695CPE310CA	RX3i CPE310 Controller, conformal coated
IC695CPE310LT	RX3i CPE310 Controller, low temperature
IC695CPE330	RX3i CPE330 Controller
IC695CPE330CA	RX3i CPE330 Controller, conformal coated
IC695CPK330	RX3i CPE330 Controller with Energy Pack
IC695CPK330CA	RX3i CPE330 Controller with Energy Pack, conformal coated
IC695CPE330LT	RX3i CPE330 Controller, low temperature
IC695CPE400	PACSystems RX3i Controller with PACEdge and Movicon Connext software
IC695CPE400CA	PACSystems RX3i Controller with PACEdge and Movicon Connext software, conformal coated
IC695CPK400	PACSystems RX3i Controller with PACEdge and Movicon Connext software, with Energy Pack
IC695CPL410	PACSystems RX3i Controller with PACEdge and Movicon WebHMI software
IC695CPL410CA	PACSystems RX3i Controller with PACEdge and Movicon WebHMI software, conformal coated
IC695CKL410	PACSystems RX3i Controller with PACEdge and Movicon WebHMI software, with Energy Pack
IC695ACC402	Energy Pack for RX3i CPE330
IC695ACC402LT	Energy Pack for RX3i CPE330, low temperature
IC695ACC403	Energy Pack for RX3i CPE400/CPL410

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Email for Commercial Suppo
Primary languages of support: Chin

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