PACSystems™ RX3i I/O

Providing High Performance and Advanced Diagnostics

Introduction

The PACSystems RX3i family provides advanced diagnostics and high performance I/O. With a modular design and multiple expansion options, RX3i is the perfect I/O solution for your process, hybrid, and discrete applications.

Modular, High-Speed Performance

RX3i is a rack-based system with a wide range of modules covering digital, analog, and numerous other specialty I/O types. These pluggable and hot-swappable modules allow you to customize the right mix of I/O, with a variety of voltage ranges and current capacities supported to meet all your application needs. Regardless of the I/O mix you choose, RX3i is built on high speed interfaces to provide rapid and consistent data transfer.

Highly Scalable

With the ability to pair I/O, RX3i allows you to scale your system with ease. In addition to I/O that you can put on the main rack, you can expand locally or remotely to connect to additional racks of I/O. In fact, RX3i can support as few as 8 I/O points and up to 32 thousand I/O points in a single system. With 7 to 16 slot backplanes and 1 slot expansion options, you can create the perfect system to fit your needs.

Perfect Upgrade Path

Emerson PACSystems RX3i gives you a simple migration path and offers a quick and painless upgrade plan from legacy systems like Series 90-30, 90-70, and RX7i. RX3i allows you to re-use Series 90-30 modules on RX3i backplanes, so you can upgrade your I/O system without disturbing wires or buying new I/O. Upgrading to RX3i provides improved communications with integrated Ethernet along with modern USB for serial or memory sticks. With a smaller form factor, higher capacity, and speeds over 100 times faster than legacy controls, RX3i is an easy and cost effective upgrade to protect your investment without disruption. Upgrade in hours, not days!

For more information:
www.Emerson.com/PACSystems

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High Availability

Eliminate process interruptions with PACSystems RX3i I/O. Beyond just the high performance RX3i offers in simplex configurations, high availability configurations are also possible for maximum reliability. Both Ethernet Global Data (EGD) and PROFINET System Redundancy (PNSR) are supported. With gigabit speed and bumpless switchover, choosing RX3i high availability will prevent unexpected failure and costly downtime.

Rugged Connector Terminals

In the RX3i family all I/O modules have removal terminal blocks for easy commissioning and maintenance. This focus on ease of use is extended with the range of supported wire gauges. Depending on the Terminal block type chosen, the wire gauge ranges from $0.081mm^2$ - $1.5mm^2$ (28 - 14AWG) solid or stranded wire.

Spring style and box style modules are also both available for your preferred connection method. Terminal Block Quick Connect (TBQC) and positive retention are supported on both low density and high density terminal blocks to ensure confidence in wiring stability and a consistent commissioning experience.

Specifications

Mounting Format
- Panel Mount
- Rack Mount

Network Interfaces
- PROFINET
- Modbus/TCP
- Ethernet Global Data (EGD)
- Control Memory Exchange (CMX)
- PROFIBUS DP

Gateways / Bridges
- Serial Communications
- Modbus/RTU
- Modbus/TCP
- HART
- GENIUS
- DNP3 Serial/TCP

- IEC-61850
- IEC-104
- Reflective Memory
- PROFIBUS/Master
- CANOpen

Network Redundancy
- Media Redundancy Protocol (MRP)
- Dual LAN

System Redundancy
- PROFINET System Redundancy (PNSR)
- Ethernet Global Data (EGD)

I/O Redundancy
- Via Application Code

Media Support
- Copper
- SM Fiber
- MM Fiber

I/O Family Comparison

Product	PACSystems RSTi-EP	VersaPoint	VersaMax Modular	RSTi-OM	PAC8000	PACSystems RX3i
Type	Distributed Slice	Distributed Slice	Chassis Based	On-machine Distributed	Intrinsically Safe	Chassis Based
Network Interfaces	PROFINET P ROFIBUS DP Modbus/TCP EtherCAT Ethernet/IP	PROFINET PROFIBUS DP Modbus/TCP DeviceNet	PROFINE PROFIBUS DP Modbus/TCP EGD DeviceNet GENIUS	PROFINET Modbus TCP OPC UA MQTT (simultaneous on same device)	PROFINET Modbus/TCP	PROFINET PROFIBUS DP Modbus/TCP EGD CMX
System Redundancy	PROFINET PROFIBUS DP	-	PNSR, EGD or GENIUS	-	PNSR or Modbus/TCP	PNSR or EGD
Hot Swap	Yes	Yes	Yes	Yes	Yes	Yes
Environmentals	IP20 -20°C to 60°C	IP20 -20°C to 55°C	IP20 0°C to 60°C -40°C to 60°C (opt.) Conformal Coat (opt.)	IP67 -20°C to 60°C	IP20 -40°C to 70°C Conformal Coat	IP20 0°C to 60°C -40°C to 60°C (opt.) Conformal Coat (opt.)
Agency Approvals	PROFINET PROFIBUS DP	UL UL HazLoc C1D2 CE ATEX Zone 2 TUVSIL3	UL UL HazLoc C1D2 CE ATEX Zone 2	UL UL HazLoc C1D2 CE ATEX Zone 2	UL UL HazLoc C1D1 CE ATEX Zone 1 Intrinsically Safe	UL UL HazLoc C1D2 CE ATEX Zone2
Marine	DNV GL	-	ABS, BV, DNVGL, LR (only select models)	-	LR	ABS, BV, DNVGL (only select models)
I/O Module Size (W x H x D)	11.5 x 120 x 76mm	12 x 120 x 70mm	66.8 x 163.5 x 70mm	65 x 212 x 29.8mm	42 x 110 x 106mm	34 x 145 x 140mm
Typical Applications	Machine Control Light Process Control General Automation	Functional Safety	Machine and Light Process Control General Automation	On-machine Cabinetless I/O	Harsh Environment Process Control	Complex Machine Process Control Motion Control General Automation
Level of Diagnostics	Better	Best	Better	Better	Best	Best

Ordering Information

Part Number*	Description
Power Supplies	
IC695PSA040	Power Supply 120/240 Vac 125 Vdc 40W
IC695PSD040	Power Supply 24 Vdc 40W
IC695PSD140	Power Supply 24 Vdc 40W Multi-purpose
IC695PSA140	Power Supply 120/240 Vac 125 Vdc 40W Multi-Purpose
IC694PWR321	Power Supply 120/240 Vac 125 Vdc 30W Serial Expansion
IC694PWR330	Power Supply 120/240 Vac 125 Vdc 30W High Capacity Serial Expansion
IC694PWR331	Power Supply 24 Vdc 30W High Capacity Serial Expansion
IC695PSD180	Power Supply 24 Vdc 80W Multi-purpose

*add 'LT' suffix for low temp version, add 'CA' suffix for conformal coated version (not applicable for all modules)