RXi2 Industrial PCs

Machine Automation Solutions

v06192020

2019 Emerson At-A-Glance

FOUNDED
1890

HEADQUARTERS IN
ST. LOUIS, MO
USA

RECOGNITION

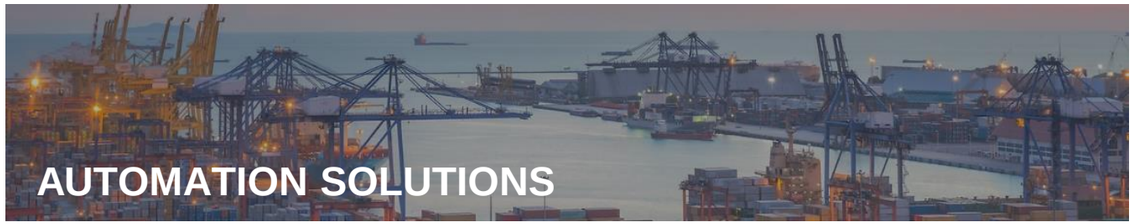
2019
#178 FORTUNE 500
AMERICA'S LARGEST CORPORATIONS BY REVENUE

Top 50 Employers
WOMEN ENGINEERS MAGAZINE

America's Best Employers
FORBES MAGAZINE

World's Most Admired Companies
FORTUNE MAGAZINE

TWO BUSINESS PLATFORMS



WORLDWIDE
88,000 EMPLOYEES
200 MANUFACTURING LOCATIONS

INNOVATION

EMERSON EMPLOYEES HELD
20K ACTIVE PATENTS WORLDWIDE IN 2019

$18.4
BILLION
IN GLOBAL SALES
FISCAL YEAR 2019

63
YEARS

CONSECUTIVE YEARS OF INCREASED DIVIDENDS

NYSE:
EMR

Improving Process and Industrial Manufacturing Performance with Measurable Results

Industries Served include

Oil and Gas/Refining
Chemical
Power
Food and Beverage
Metals and Mining
Water and Wastewater
Life Sciences
Automotive
Electronics

Core Expertise & Key Brands

Industrial Internet of Things
- Plantweb

Systems and Asset Management
- DeltaV
- PACSystems
- Ovation

Measurement Instrumentation
- Rosemount
- Micro Motion

Fluid Control & Pneumatics
- ASCO
- AVENTICS

Valves, Actuators and Regulators
- Bettis
- Fisher
- Keystone
- KTM
- Vanessa

Welding, Assembly and Cleaning
- Branson
- HTE

Electrical and Lighting
- Appleton
- SolaHD

Industry Services and Solutions

RXi2 Industrial PC Portfolio

PACSystems™ RXi2 Industrial PCs

Powerful, expandable, and reliable industrial computers

Key Portfolio Benefits

- Reliable, high-performance computing with optional edge support*
- Patented thermal monitoring technology to thrive in rugged environments without performance degradation
- Fanless designs and SSD storage reduce overall maintenance needs

Core Innovation

RXi2 – LP Industrial PC

RXi2 – BP Industrial PC

RXi2 – EP Industrial PC

RXi2 – XP Industrial PC

RXi2 – UP Industrial PC

*Off-the-shelf PACEdge options available on LP and BP product lines

PACSystems™ RXi2 Industrial PCs Overview

RXi2 – LP

RXi2 – BP

RXi2 – EP

RXi2 – XP

RXi2 – UP

Basic	Advanced	Premium
Rugged computing at an attractive price	*High-performance analytics and graphics in an optimized package*	*Premium performance, features and expansion for critical applications with maximum flexibility*

- ✓ **Flexible footprint and performance** to fit a wide range of applications
- ✓ **Fanless design and SSD storage** to eliminate moving parts that are prone to failure
- ✓ **100% CPU performance even at maximum operating temperatures** with patented heat dissipation technology
- ✓ **RAID storage options** provide additional redundant storage capability*
- ✓ **Up to four (4) optional expansion slots** for adding functionality to support your future application needs*
- ✓ **PACEdge IoT Stack & Movicon.NExT** software available to enable industry-leading edge computing options†
- ✓ **Customization options available** upon request to adapt to your unique or embedded computing needs

†LP and BP product lines *EP, XP and UP product lines

PACSystems™ RXi2 Industrial PCs Capabilities

User Challenges

Total Cost of Ownership

Reliable Performance Where It's Needed

Connectivity With Security

Customization Options

Our Value

Fanless design and SSD storage **eliminate moving parts and reduce maintenance**

Flexible form factor to optimize performance

Extended lifecycles, designed for industry

Patented cooling technology for predictable performance, even in **extreme conditions**

Ruggedized designs for **high shock and vibration tolerance**

Industry leading connectivity options including flexible RAID and PCIe slots

TPM 2.0 and Secure Boot help **prevent against software intrusion** during start up

Configurable solutions including embedded solutions that adapt to your unique needs

Scalable Industrial PCs





Specifications	LP	BP	EP	XP	UP
Processor	AMD G-Series SOC second generation GX-210HL processor, 7W 2c 1.0GHz 1MB cache AMD G-Series SOC second generation GX-412GC processor, 15W 4c 1.2-1.6GHz 2MB cache	AMD Ryzen Embedded V1605B, 12-25W, 4c 2.0GHz (3.6GHz) AMD Ryzen Embedded V1404I, 12-25W, 4c 2.0GHz (3.6GHz) AMD Ryzen Embedded R1505G, 12-25W, 2c 2.4GHz (4.3GHz)	AMD RX-225FB processor 15~17W CTDP 2c 2.2GHz (3.0GHz) 1MB cache AMD RX-427BB processor 30~35W CTDP 4c 2.7GHz (3.6GHz) 4MB cache	Intel® Core™ i3-6102E, i5-6440EQ, i7-6820EQ Intel® Celeron™ G3900E, G3902E Intel® XEON® processor E3-1505L, E3-1505	Intel® Core™ i3-7102E, i5-7442EQ, i7-7820EQ Intel® XEON® processor E3-1505M, E3-1505L, E3-1501M
Memory (RAM)	4GB or 8GB DDR3L memory	Up to 16GB DDR4-2400	Up to 16 GB DDR3L-1866	Up to 32GB DDR4-2133	Up to 32GB DDR4-2400
Standard Operating Temp. Range	-25°C to +65°C (up to 55°C when DIN rail mounted)	0°C to +60°C (available -40°C to +70°C options)	0°C to +60°C (available -40°C to +70°C options)	0°C to +60°C (available -40°C to +70°C options)	0°C to +60°C (available -40°C to +70°C options)
Storage (SSD Options)	Primary storage device – SATA slim 32GB / 64GB / 128GB	Primary storage device – M.2 SATA 6 gigabit/s Micro-SD slot, user accessible, supports OS boot, hot plug	Primary storage device – M.2 PCI Express gen3 x4 or M.2 SATA Gen3 Secondary storage option – Twin 2.5” SATA drive bays, hot swap and RAID enabled CFast slot, user accessible, supports boot, hot plug Ethernet Four 1-gigabit Ethernet channels – RJ-45 standard, SFP optional One 1-gigabit Ethernet channel w/ remote management capability – RJ45	Primary storage device – M.2 PCI Express gen3 x4 or M.2 SATA Gen3 Secondary storage option – Twin 2.5” SATA drive bays, hot swap and RAID enabled CFast slot, user accessible, supports boot, hot plug	Primary storage device – M.2 PCI Express gen3 x4 or M.2 SATA Gen3 Secondary storage option – twin 2.5” SATA drive bays, hot swap and RAID enabled CFast slot, user accessible, supports boot, hot plug
Expansion Slots	N/A	Optional mini PCIe slot with UIM card holder, can be used for cellular modem or Wi-Fi/Bluetooth Optional 1, 2 PCIe expansion slots	Mini-PCIE card site for NvSRAM card, LTE modem, or other M.2 communications slot for Wi-Fi and Bluetooth PCI Express expansion slots: – Zero – One gen3 x4 – Two gen2 x4	Mini-PCIE card site for NvSRAM card, LTE modem, or other M.2 communications slot for W-Fi and Bluetooth PCI Express expansion slots: – Zero – One gen3 x4 – Two gen2 x4 – Four 1x gen2 x4, 3 gen2 x1	Mini-PCIE card site for NvSRAM card, LTE modem, or other M.2 communications slot for Wi-Fi and Bluetooth PCI Express expansion slots: – Zero – One gen3 x4 – Two gen2 x4 – Four 1x gen2 x4, 3 gen2 x1
Ideal Applications	A few analytics at the machine level	Increased analytics, compact form factor	large scale applications in a flexible form factor		

PACSystems™ RXi2-LP

Thinnest form factor

Processor: Dual Core (1.0GHz) or Quad Core (1.2GHz) AMD G-Series processor

Memory: 4 or 8 GB RAM

Storage: 32, 64, 128 GB SSD

Environment: -30 to 65°C operating temp

Interfaces:

- 2 or 4 10/100/1000 Base T Ethernet RJ45
- RS-232 COM port (5-pin connecter)
- RS-485 COM port (5-pin connecter)
- 2 or 4 USB ports
- DisplayPort
- Mic in (Mono), (3.5mm jack)
- Line out (Stereo), (3.5mm jack)

Ideal for Machine Level Analytics and Edge Connectivity Applications

PACSystems™ RXi2-BP

Powerful computing in a compact form factor

Processors: AMD Ryzen V1000 or R1000 processors

- V1605B, 12-25W, Quad Core 2.0 - 3.6GHz
- V1404I, 12-25W, Quad Core 2.0-3.6GHz
- R1505G, 12-25W, Quad Core 2.4-3.3GHz
- R1305G, 8-10W, Dual Core 1.5-2.8GH**z**

Memory: 4, 8, 16 GB RAM

Storage: 128, 256, 512 GB SSD

Expansions: Optional 1 or 2 PCIe card expansion slots

Environment: -40 to 70°C operating temperature options

Interfaces:

- Four (4) Ethernet ports
- RS-232 and isolated RS-422/RS-485 Serial communications
- Four (4) USB ports
- DisplayPort++ (up to 4 daisy-chained display monitors)
- Optional cellular modem, WiFi and Bluetooth® wireless connectivity
- Optional mini-PCIe slot with UIM card holder

Increased Analytics & Graphics Capability for Edge Applications with Reduced Footprint

PACSystems™ RXi2-EP, RXi2-XP and RXi2-UP

One powerful, modular design for high performance computing needs

Processors: AMD Bald Eagle (RXi2-EP) or Intel Sky Lake/Kaby Lake (RXi2-XP/ RXi2-UP)

Storage: 8, 16, 32 GB RAM, 128, 256, 512 GB SSD

Displays: Up to 3 displays (RXi2-XP/RXi2-UP) or 4 displays for (RXi2-EP)

Expansions: 0,1,2,4 PCIe card expansion slots

Storage: Optional RAID enabled secondary storage

Security: Trusted Platform Module (TPM)

Environment: -40 to 70°C operating temperature options

Interfaces:

- Up to five (5) Ethernet ports
- 2 RS-232 and 2 RS-422/RS-485 Serial Communications
- 6 USB ports
- DisplayPort++
- LTE modem option
- Wifi/Bluetooth radio option

0 Slot

1 Slot

2 Slot

4 Slot

Ideal for Premium, Critical and Large-scale Applications in Flexible Form Factors

PACSystems™ Industrial PCs Patented Thermal Design

Superior Thermal Performance at High Temperatures Without CPU Throttling

Predictable, maximum performance across the entire temperature range

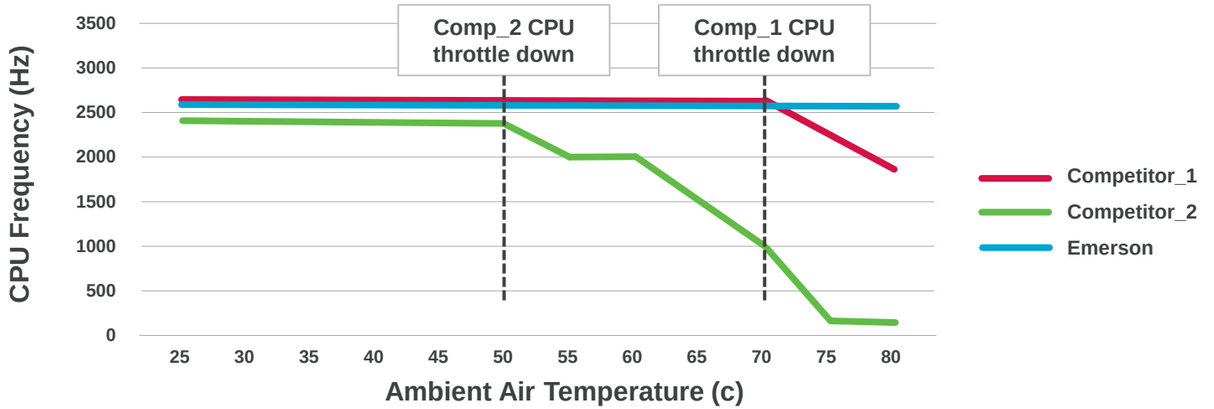
Increased IPC life expectancy attributable to lower operating temperature of components

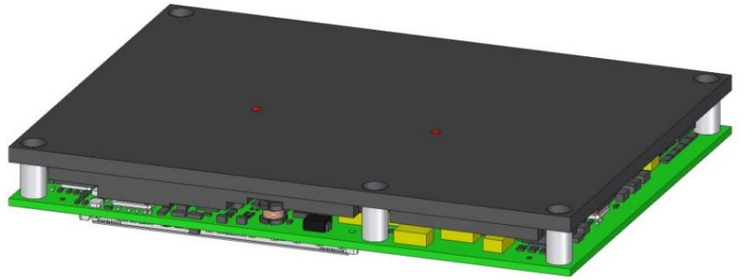
Enabled by Patented Technologies

Patented Thermal Design:
Optimizes conductive path between hot spots

Patented Thermal Testing:
Tested to ensure that each unit delivers thermal performance

CPU Performance vs. Ambient Temperature





Patented Heat Sink Design

RXi2 Industrial PCs Deliver Best-in-Class Performance Across the Temperature Range

PACSystems™ RXi2 Industrial PCs

Edge processing simplifies your IIoT development and deployment

Data Capture

Product Lifecycle Challenges

COM Express technology allows for upgrade to new technology without redesign

Rugged shock and vibration tolerance, reliable with RAID for redundancy

Continuous Robustness & Reliability

Which challenge can we solve together today?

Performance vs. Power Consumption

Patented cooling technology. No drop in CPU performance from -40 to 70C

TPM 2.0 and Secure Boot help prevent against software intrusion on start up

Connectivity with Security

Flexibility

Options for compute power, performance, RAID storage, graphics capability