

PACSystems™ RXi2-UP Industrial PC

Reliable, Ruggedized, High-Performance Computing

Introduction

PACSystems RXi2 IPCs offer a range of processor choices, increased and faster storage, improved graphics, and enhanced security features.

The PACSystems RXi2-UP IPC delivers rugged, high-performance computing capabilities to run HMI, historian, and analytics applications right at the machine, to enable improved real-time control of operations and better integration into plant-wide systems.

Combining outstanding computing capabilities with the added expandability of 1, 2 or 4 PCI Express slots and CFast storage, the PACSystems RXi2-UP is ideal for a range of demanding industrial applications.

High-Performance Computing

The PACSystems RXi2-UP IPC has high-performance Intel Xeon processors, up to 32GB of ECC RAM, 5 Gigabit Ethernet interfaces, and industrial grade SSD disk storage to complete the high-performance design.

It provides additional application flexibility with both, mini PCI Express and low-profile PCI Express slots. This expandability combined with advanced CPUs delivers high-performance, computing.

PACSystems RXi2-UP IPC incorporates patented thermal monitoring technology with sophisticated passive cooling techniques to provide the highest performance, fanless industrial edge computing platform. So, it can operate at peak computing performance in extended temperature ranges right at the machine, without having to throttle the CPU.

Pre-Loaded Productivity and SCADA

Do more at the edge with the PACSystems RXi2-UP optionally pre-loaded with Emerson's Movicon.NEXt HMI/SCADA software. This industrial PC delivers a powerful and tightly integrated solution with reliable, industrial computing and innovative, scalable and flexible automation software. Based on OPC UA,



Movicon.NEXt is the first integrated automation software platform for connectivity, IIoT, machine HMI, HMI/SCADA and plant analytics.

Movicon.NEXt enables connectivity to many native and integrated communication protocols. It provides enhanced visualization tools, including WPF, XAML and 3D graphics, and also enables data recording independent of data format used. With Movicon.NEXt, users also get integrated scripting, an alarm management system, and analytics capable of acquiring production data in real time. These analytics provide KPI and OEE performance data, calculate machine downtime and can be used in tracking and scheduling production.

Greater Uptime

All aspects of the PACSystems RXi2-UP IPC have been engineered for reliability in harsh industrial environments, from the use of all industrial grade components to its fanless design. To help keep data and operations secure, the PACSystems RXi2-UP utilizes Trusted Platform Module (TPM) and Microsoft Secure Boot technology. Security coupled with PACSystems RXi2-UP's strong shock and vibration resistance and available RAID storage options keeps your data protected and maximizes uptime.

Enhanced Productivity & Lower Total Cost of Ownership (TCO)

The PACSystems RXi2-UP IPC combines high performance with reliability, enhancing productivity and reducing total cost of ownership.

The PACSystems RXi2-UP IPC delivers low TCO through features such as compact size, reduced maintenance, low power consumption, and ease of future performance upgrades enabled by our innovative rugged COM Express CPU architecture.

Feature	Benefit
7th Generation Intel® Xeon® CPUs	Delivers high-performance computing for applications that load, manipulate and store large amounts of data, or handle multiple communication ports in real-time.
Fanless operation	A robust, reliable solution with no moving parts and minimized dust contamination.
5 Gigabit ethernet ports (Four with Time SYNC IEEE1588 and 802.1AS)	Network implementation flexibility.
	Multiple high-speed Ethernet links for communication-centric applications with support for deterministic transfer of data/commands.
0, 1, 2 or 4 PCIe expansion slots	Add new functionality on demand to support specific application needs
Patented CPU Cooling Technology	Offers 100% CPU performance even as temperatures rise ensuring that your process always stays running consistently.

Specifications

Processor	
	Intel® XEON® Processor E3-1505M v6, 35/45W 4c8t 3.0GHz (-4.0GHz) 8MB
	Intel® XEON Processor E3-1505L v6, 25W 4c8t 2.2GHz (-3.0GHz) 8MB
	Intel® XEON® Processor E3-1501M v6, 45W 4c4t 2.9GHz (-3.6GHz) 6MB
Memory	
	Up to 32GB DDR4-2400
	Soldered, with ECC
Storage Interfaces	
	Primary storage device – M.2 SATA Gen3 (User-installed M.2 NVMe SSD supported)
	Secondary storage option – Twin 2.5” SATA drive bays, hot swap and RAID (0 or 1 configuration) enabled on specific SKUs.
	CFast slot, user accessible, supports boot, hot plug
Ethernet	
	Four 1-gigabit Ethernet channels – RJ-45 standard
	One 1-gigabit Ethernet channel w/ remote management capability, Intel’s AMT – RJ45

Wireless Communication	
	User-installed and certified LTE modem capability using mini-PCIe with UIM card holder
	User-installed Wifi/Bluetooth radio capability using M.2 or mini-PCIe or PCIe expansion slot (FCC certified module required)
Video/ Graphics Interface	
	Twin DisplayPort++ 1.2 for a total of 3 independent displays for up to 4K resolution
USB Interface	
	Four USB 3.0 external
	Two USB 2.0 internal
Serial Communications	
	2 to 4 channels
	Two RS232, two RS422/485 depending on SKU
Expansion	
	Mini-PCIE card site for user-installed/certified NvSRAM, WiFi, Bluetooth, LTE modem card or other M.2 communications slot for user-installed WiFi and Bluetooth
	PCI Express expansion slots: <ul style="list-style-type: none"> - Zero - One Gen3 x4 - Two Gen2 x4 - Four: 1 slot Gen2 x4 and 3 slots Gen2 x1
LED	
	LED indicators: Power, TPM, Temperature, SATA
	Ethernet Link/Activity
	One User Defined LED
Others	
	Timers: Legacy PC-AT, HPET
	Twin Watchdog Timers (OS, application)
	Holistic, system-level, thermal monitoring
	RTC with Lithium coin cell battery
Power	
	Input: 24V DC (±25%) with surge protection
	Maximum current: 3.5A

Environmental

All values under typical conditions without added expansion slot cards.
 Extended temperature variants are available upon request. The maximum extended temperature ranges mentioned in the table below are achievable with a specific choice of CPU and storage, and without extension cards installed in the system.
For detailed information please read the manual.

Range	Operating	Storage
Standard	0°C up to +60°C	-40°C to +85°C
Extended	-40°C up to +70°C ²	-40°C to +85°C

¹ At 100% CPU load temperature range requires vertical orientation of the heat sink fins at free convection.
² Operating temperature is dependent on the CPU and SSD choice, application software, orientation of the heat sink fins at free convection. For detailed recommendations please contact support team.
³ Extended Temperature Range available upon request.
⁴ RAID when using HDD (v.s. SSD) Drives brings Operating Temperature limits down to a maximum of 40°C depending on chosen HDD and HDD workload.

Range	Operating	Storage
Humidity	5-95% @ +40°C	5-95% @ +40°C
Altitude	6,600 ft. (2.0km)	40,000 ft. (12 km)

Firmware

	UEFI AMI Aptio® 5
--	-------------------

Mechanical

	Rugged aluminum and stainless-steel housing for optimal thermal management and durability
	IP20 – Protection against particles
	Flat and Slim (Book) mounting orientation options

Software Support

	Microsoft® Windows® 10 IoT 2019 LTSC
	Linux® Kernel 4.9 (not pre-loaded)
	VXWorks® 7.0 (not pre-loaded)
	Movicon.NExT 4.1 and above (pre-loaded options available)
	Pro.Lean

Safety & EMC

	IEC/UL62368
	CE, FCC

Dimensions (H x W x D)	
Dimensions	0-slot: 252 x 203 x 108.5 mm (9.92 x 8 x 4.24 in)
	1-slot: 252 x 203 x 135.5 mm (9.92 x 8 x 5.33 in)
	2-slot: 252 x 203 x 155.5 mm (9.92 x 8 x 6.13 in)
	4-slot: 252 x 203 x 195.5 mm (9.92 x 8 x 7.70 in)
Weight	0-slot: 3.9 kg (8.60 lbs)
	1-slot: 4.2 kg (9.26 lbs)
	2-slot: 4.4 kg (9.70 lbs)
	4-slot: 4.7 kg (10.34 lbs)

Ordering Information

Part Number	Description	Operating Temperature
R2U0N1B0A1T0A	RXi2-UP IPC, Dual Core i3-7102E, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C up to +60°C
R2U0N1B1A1T0A	RXi2-UP IPC, Dual Core i3-7102E, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U0N1E0A1T0A	RXi2-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C up to +60°C
R2U0N1E1A1T0A	RXi2-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U0N1J0B1T0A	RXi2-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 0 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, No OS,	0°C up to +60°C
R2U0N1J1B1T0A	RXi2-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 0 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U1N1B0A1T0A	RXi2-UP IPC, Dual Core i3-7102E, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C up to +60°C
R2U1N1B1A1T0A	RXi2-UP IPC, Dual Core i3-7102E, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U1N1E0A1T0A	RXi2-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C up to +60°C
R2U1N1E1A1T0A	RXi2-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U1N1J1B1T0A	RXi2-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 1 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U1N1F1A1T0A	RXi2-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 1 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C
R2U1N1C0A1T0A	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C up to +60°C
R2U1N1C1A1T0A	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C
R2U2N1J1B2T0A	RXi2-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 2 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C up to +60°C
R2U2N1F1A2T0A	RXi2-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 2 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C

Part Number	Description	Operating Temperature
R2U2N1D0A2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 2 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C up to +60°C
R2U2N1D1A2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 2 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows	0°C up to +60°C
R2U2N1C0B2T0F	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 2 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	-40°C up to +70°C
R2U2N1C1B2T0F	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 2 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	-40°C up to +70°C
R2U4N1F0A2T0A	RXi2-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 4 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C up to +60°C
R2U4N1F1A2T0A	RXi2-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 4 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C
R2U4N1C0B2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 4 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C up to +60°C
R2U4N1C1B2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 4 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C
R2U4N1D0C2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C up to +60°C
R2U4N1D1C2T0A	RXi2-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C up to +60°C
R2U2N1C1A1T1A	RXi2-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 2 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10, RAID	0°C up to +60°C
R2U4N1D1A2T1A	RXi2-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 4 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10, RAID	0°C up to +60°C

Pre-Loaded Software Devices Ordering Information

Part Number	Description	Operating Temperature
R2U2N1D3B1T1F	RXi2-UP Industrial PC: Intel® E3-1505Mv6 CPU, 32GB RAM, 256GB SSD, RAID, 2 PCIe Slots, No Drives, -40 to 70C, Windows, Movicon.Next, Alarm Dispatcher, Web Client, PRO.LEAN, 20000 Tags	-40°C up to +70°C

Americas Support – Technical and Commercial

Phone: 1-888-565-4155 or 1-434-214-8532 (if toll free 800 option is unavailable)

Email for Technical Support: support.mas@emerson.com

Email for Commercial Support: customercare.mas@emerson.com

Primary language of support: English

Europe, Middle East, & Africa Support – Technical and Commercial

Phone: +800-4-444-8001 or +420-225-379-328

(if toll free 800 option is unavailable or dialing from a mobile telephone)

Email for Technical Support: support.mas.emea@emerson.com

Email for Commercial Support: customercare.emea.mas@emerson.com

Primary languages of support: English, German, Italian, Spanish

Asia Support – Technical and Commercial

Phone: +86-400-842-8599 for Greater China

+65-6955-9413 (All Other Countries)

Email for Technical Support: support.mas.apac@emerson.com

Email for Commercial Support Asia: customercare.cn.mas@emerson.com

Primary languages of support: Chinese, English

Support Website: www.emerson.com/iac-support

Home Website: www.Emerson.com/PACSystems

United States Office

Emerson Automation Solutions
Intelligent Platforms, LLC
2500 Austin Dr
Charlottesville, VA 22911

Brazil Office

Emerson Automation Solutions
Av. Hollingsworth, 325 – Iporanga
Sorocaba – SP, 18087-105

Australia Office

Emerson Automation Solutions 4
71 Mountain Hwy,
Bayswater VIC 3153, Australia
+61 3 9721 0200

Germany Office

Emerson Automation Solutions
ICC Intelligent Platforms GmbH
Memminger Straße 14
Augsburg, DE 86159

Italy Office

Emerson Automation Solutions
Progea Srl
Via D' Annunzio 295,
1-41123 Modena, Italy

India Offices

Emerson Automation Solutions
Intelligent Platforms Pvt. Ltd.,
Building No.8, Ground Floor
Velankani Tech Park, No.43
Electronics City Phase I, Hosur Rd
Bangalore-560100

China Office

Emerson Automation Solutions Intelligent
Platforms (Shanghai) Co., Ltd
No.1277, Xin Jin Qiao Rd, Pudong,
Shanghai, China, 201206

Singapore Office

Emerson Automation Solutions Intelligent
Platforms Asia Pacific Pte. Ltd.
1 Pandan Cres,
Singapore, 128461

©2021 Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. The PACSystems logo is a mark of one of the Emerson family of companies. All other marks are property of their respective owners.

The contents of this publication are presented for information purposes only, and while diligent efforts were made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services describe herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products an any time without notice.