RXi2-BP Industrial PC
The Next Generation of Ruggedized Computing

Introduction

Emerson has developed the next generation of its powerful, expandable, and reliable industrial computers (IPC). RXi2 IPCs offer new processor choices, increased and faster storage, improved graphics, and enhanced security features.

The RXi2-BP IPC delivers compact, rugged, mid-to high-range 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 compute capabilities with a compact and robust enclosure, the RXi2-BP is ideal for a range of demanding Industrial applications.

High-Performance Computing

Emerson uses the latest AMD Ryzen family processors based on their unmatched performance. The RXi2-BP IPC has up to 16GB of ECC RAM, four Gigabit Ethernet interfaces, and industrial grade high-speed SSD disc storage to complete the high-performance design.

These features make the RXi2-BP IPC the perfect platform for running industrial applications right at the machine, even in the harshest environments.

The RXi2-BP design features 1 PCIe slot expandability. This functionality combined with advanced CPUs allows for flexible, high-performance computing. To help keep data and operations secure, the RXi2-BP utilizes Trusted Platform Module (TPM) and Microsoft Secure Boot technology.

Greater Uptime

All aspects of the RXi2-BP IPC have been engineered for reliability in harsh environments. With high quality industrial components, a rugged design, and fanless operation, it is perfect for both commercial and Industrial applications. The RXi2-BP IPC is a highly reliable IPC with a long life cycle.

The RXi2-BP IPC architecture is Emerson's rugged COM Express modular CPU platform. Emerson incorporates patented thermal monitoring technology with sophisticated passive cooling techniques to provide the highest-performance, fanless industrial computing platform that can operate in extended temperature ranges.

Enhanced Productivity & Lower TCO

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

EMERSON™

Feature	Benefit
AMD Ryzen Embedded V1000 and R1000 Series CPUs	High-performance AMD chip with an industrial temperature version. Coupled with our patented cooling technology, our performance is best-in-class.
Fanless operation	A robust, reliable solution with no moving parts and minimized dust contamination.
4 Gigabit Ethernet ports (three 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.
Small Form Factor	Mounting options provides flexibility for where the IPC can be installed. DIN Rail or Book Shelf Mounting available.

Specifications

Processor	
AMD Ryzen Embedded V1000 and R1000 Series	V1605B, 12-25W, 4c 2.0GHz (3.6GHz), Vega 8 graphics
	V1404I, 12-25W, 4c 2.0GHz (3.6GHz), Vega 8 graphics
	R1505G, 12-25W, 2c 2.4GHz (3.3GHz), Vega 3 graphics
	R1305G, 8-10W, 2c 1.5GHz (2.8GHz), Vega 3 graphics

Memory	
	Up to 16GB DDR4-2400
	Soldered, with ECC

Storage Interfaces	
	Primary storage device – M.2 SATA 6 gigabit/s
	Micro-SD slot, user accessible, supports OS boot, hot plug

Ethernet[1]	
	Four 10/100/1000BASE-T Ethernet ports

Wireless Communication[1]	
	Option to add user-installed WiFi/BlueTooth wireless connectivity through PCIe slot

Graphics Interface	
	DisplayPort++ HBR3 support (4 independent displays)

USB Interface	
	Two USB 3.1 Gen 1
	Two USB 2.0

Serial Communications	
	One RS-232
	One galvanically isolated RS422/485

Expansion	
	1 PCIe expansion slot

LED	
	One green color User Defined LED

Others	
	Timers: Legacy PC-AT, Local APIC, HPET
	OS and application watchdog timers
	Thermal monitoring
	RTC with Lithium coin cell battery

Power	
	Input: 24V DC (±25%) with

Environmental			
Thermal performance is highly dependent on end application work load, pre-configured processor TDP value, installed expansion cards, IPC mounting orientation. Values listed are measurements of the specific test cases.	**Range**	**Operating** [2, 3]	**Storage**
	Standard	0°C up to +70°C	-40°C up to +85°C
	Extended	-40°C up to +70°C	-40°C up to +85°C
	Humidity	5-95% @ +40°C	5-95% @ +40°C
	Altitude	6,600 ft. (2.0km)	40000 ft. (12 km)

Firmware	
	UEFI AMI Aptio® 5

Dimensions (H x W x D)	
Base unit without PCIe expansion slot	158 x 191 x 44.5 mm, Weight: 1.45kg
Unit with 1 PCIe expansion slot	158 x 191 x 81.8 mm, Weight: 1.73kg

Mechanical	
	Rugged aluminum and stainless steel housing for optimal thermal management and durability
	IP20 – Protection against particles

Software Support	
	Windows® 10 IoT 2019 LTSC
	Linux Ubuntu 18.04, 20.04, and above
	VxWorks® 7.0 (upon request)

Safety & EMC	
	IEC/UL62368
	CE, FCC

Mounting Options	
	Slim (Book)
	DIN Rail (kit: R2B00ACCRM01)
	Panel Mount (kit for unit without PCIe expansion slot: R2B00ACCMP01, kit for unit with 1 PCIe expansion slot: R2B00ACCMP02)

[1] *Additional features may be added by customization, please contact your regional sales representative to inquire.*

[2] *At 100% CPU load temperature range requires vertical orientation of the heat sink fins at free convection.*

[3] *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.*

Part Number	Description	Operating Temperature[2,3]
R2B0N8N1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N6N1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 4GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N7N1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N5N1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 128GB SSD	-40˚C up to 70˚C
R2B0N3N1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 4GB RAM, 128GB SSD	-40˚C up to 70˚C
R2B0N4N1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 128GB SSD	-40˚C up to 70˚C
R2B0N2N1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N0N1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 4GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N1N1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 128GB SSD	0˚C up to 70˚C
R2B0N8A1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 128GB SSD, Win 10	0˚C up to 70˚C
R2B0N7A1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 128GB SSD, Win 10	0˚C up to 70˚C
R2B0N5A1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 128GB SSD, Win 10	-40˚C up to 70˚C
R2B0N4A1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 128GB SSD, Win 10	-40˚C up to 70˚C
R2B0N2A1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 128GB SSD, Win 10	0˚C up to 70˚C
R2B0N1A1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 128GB SSD, Win 10	0˚C up to 70˚C
R2B0N8N2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 256GB SSD	0˚C up to 70˚C
R2B0N6N2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 4GB RAM, 256GB SSD	0˚C up to 70˚C
R2B0N7N2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 256GB SSD	0˚C up to 70˚C

Accessories	Description	Operating Temperature
R2B0N5N2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 256GB SSD	-40˚C up to 70˚C
R2B0N3N2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 4GB RAM, 256GB SSD	-40˚C up to 70˚C
R2B0N4N2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 256GB SSD	-40˚C up to 70˚C
R2B0N2N2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 256GB SSD	0˚C up to 70˚C
R2B0N0N2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 4GB RAM, 256GB SSD	0˚C up to 70˚C
R2B0N1N2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 256GB SSD	0˚C up to 70˚C
R2B0N8A2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 256GB SSD, Win 10	0˚C up to 70˚C
R2B0N7A2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 256GB SSD, Win 10	0˚C up to 70˚C
R2B0N5A2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 256GB SSD, Win 10	-40˚C up to 70˚C
R2B0N4A2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 256GB SSD, Win 10	-40˚C up to 70˚C
R2B0N2A2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 256GB SSD, Win 10	0˚C up to 70˚C
R2B0N1A2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 256GB SSD, Win 10	0˚C up to 70˚C
R2B0N8N3N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N6N3N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 4GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N7N3N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N5N3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 512GB SSD	-40˚C up to 70˚C
R2B0N3N3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 4GB RAM, 512GB SSD	-40˚C up to 70˚C
R2B0N4N3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 512GB SSD	-40˚C up to 70˚C
R2B0N2N3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N0N3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 4GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N1N3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 512GB SSD	0˚C up to 70˚C
R2B0N8A3N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 16GB RAM, 512GB SSD, Win 10	0˚C up to 70˚C
R2B0N7A3N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU, 8GB RAM, 512GB SSD, Win 10	0˚C up to 70˚C
R2B0N5A3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 16GB RAM, 512GB SSD, Win 10	-40˚C up to 70˚C
R2B0N4A3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU, 8GB RAM, 512GB SSD, Win 10	-40˚C up to 70˚C
R2B0N2A3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 16GB RAM, 512GB SSD, Win 10	0˚C up to 70˚C
R2B0N1A3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU, 8GB RAM, 512GB SSD, Win 10	0˚C up to 70˚C
R2B0N9N4N3A0A	RXi2 - BP Industrial PC: AMD R1305G CPU, 4GB RAM, 64GB SSD	0˚C up to 70˚C

Accessories	Description	Operating Temperature
R2B1NAA1N3A0A	RXi2 - BP Industrial PC: AMD R1305G 1.5GHz, 8GB RAM, 128GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N7N1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU 2.4GHz, 8GB RAM, 128GB SSD, 1 PCIe slot, no OS	0˚C up to 65˚C
R2B1N7N2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU 2.4GHz, 8GB RAM, 256GB SSD, 1 PCIe slot, no OS	0˚C up to 65˚C
R2B1N7A1N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU 2.4GHz, 8GB RAM, 128GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N7A2N3A0A	RXi2 - BP Industrial PC: AMD R1505G CPU 2.4GHz, 8GB RAM, 256GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N2N1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 128GB SSD, 1 PCIe slot, no OS	0˚C up to 65˚C
R2B1N2N2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, no OS	0˚C up to 65˚C
R2B1N2N3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, no OS	0˚C up to 65˚C
R2B1N2A1N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 128GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N2A2N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N2A3N3A0A	RXi2 - BP Industrial PC: AMD V1605B CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, Win 10	0˚C up to 65˚C
R2B1N4N1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 128GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N4N2N3A0AF	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 256GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N4N3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 512GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N4A1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 128GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B1N4A2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 256GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B1N4A3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 8GB RAM, 512GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B1N5N1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 128GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N5N2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N5N3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 512GB SSD, 1 PCIe slot, no OS	-40˚C up to 65˚C
R2B1N5A1N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 128GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B1N5A2N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 256GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B1N5A3N3A0F	RXi2 - BP Industrial PC: AMD V1404I CPU 2.0GHz, 16GB RAM, 512GB SSD, 1 PCIe slot, Win 10	-40˚C up to 65˚C
R2B00ACCRM01	RXi2 - BP Industrial PC Accessory: 1pcs DIN Rail Mounting Kit R2B	-
R2B00ACCMP01	RXi2 - BP Industrial PC Accessory: 1pcs Panel Mounting Kit R2B for zero-slot variant	-
R2B00ACCMP02	RXi2 - BP Industrial PC Accessory: 1pcs Panel Mounting Kit for one-slot variant	-

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