

# RXi2 – LP Industrial PC

## The Next Generation of Ruggedized Computing

Emerson has developed the next generation of its small, reliable and yet powerful industrial computer (IPC) in the RXi2 – LP. Joining the rest of the family of RXi2 IPCs, the RXi2 – LP (Low Profile) fills a niche with new processors, fast SSD storage, strong graphics, and enhanced security features in a compact form factor.

The RXi2 – LP IPC delivers compact, rugged, and mid-range performance computing capabilities to run HMI, historian, and analytics applications right at the machine. This enables improved real-time control of operations and better integration into plant-wide systems. Combining strong computing and graphical capability with a small form factor, the RXi2 – LP IPC is ideal for a range of industrial applications.

### High Performance

The RXi2 – LP IPC comes with either a Dual Core 1.0 GHz processor or a Quad Core 1.2GHz Processor with 4GB or 8GB of available DDR3 RAM. With Windows 10 IOT Enterprise LTSC OS installed standard, the RXi2 – LP IPC is ready to meet your software needs. Coupled with up to 4 USB and up to 4 separately addressable Gigabit ethernet ports, the RXi2 – LP creates a compact high-performance platform that lowers total cost of ownership. Seamless replacement of either component allows for powerful upgrades to the underlying computing technology.

### Greater Uptime

All aspects of the RXi2 – LP IPC have been engineered for reliability in harsh environments, from the use of all industrial grade components to its fanless design. To help keep data and operations secure, the RXi2 – LP utilizes Trusted Platform Module 2.0 (TPM) and Microsoft Secure Boot technology. Security coupled with RXi2 – LP's strong shock and vibration resistance makes the RXi2 – LP a strong offering in the market.

### Enhanced Productivity & Lower TCO

The RXi2 – LP IPC combines strong performance with reliability, enhancing productivity and low total cost of ownership through features such as compact size, reduced maintenance, and low power consumption. The ability to add a screen to the back of the unit and create a Panel PC offers additional flexibility.



### Features & Benefits

- **2nd Generation AMD G-Series SOC** – Delivers mid-tier performance computing for applications that load, manipulate and store large amounts of data, or handle multiple communication ports in real-time.
- **Modular Components** – Easily attach a screen to your existing computing unit.
- **Up to 4 Gigabit Ethernet ports** – Network implementation flexibility. Multiple high-speed Ethernet links for communication-centric applications with support for deterministic transfer of data/ commands.
- **Small or Large form factor** – Low Profile unit with two form factors to fit various applications.

## Specifications

<b>Processor</b>	<ul style="list-style-type: none"> <li>• AMD G-Series SOC 2nd Generation GX-210HL Processor, 7W 2c 1.0GHz 1MB cache</li> <li>• AMD G-Series SOC 2nd Generation GX-412GC Processor, 15W 4c 1.2-1.6GHz 2MB cache</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 4GB or 8GB DDR3L Memory</li> <li>• Soldered, with ECC</li> </ul>
<b>Storage Interfaces</b>	<ul style="list-style-type: none"> <li>• Primary storage device – SATA Slim</li> <li>• 32GB / 64GB / 128GB</li> </ul>
<b>Ethernet</b>	<ul style="list-style-type: none"> <li>• Two (Dual Core) or Four (Quad Core) 1-gigabit Ethernet channels – RJ-45 standard</li> </ul>
<b>Video/Graphics Interface</b>	<ul style="list-style-type: none"> <li>• GPU frequency 267MHz Dual Core GX-210HL / 300MHz Quad Core GX-412GC</li> <li>• Single DisplayPort++ 1.2 for a total of 2 independent displays or 1 independent screen when additional screen is attached to the unit</li> </ul>
<b>USB Interface</b>	<ul style="list-style-type: none"> <li>• Two USB 3.0 external</li> <li>• Two USB 2.0 external (on Quad core models)</li> </ul>
<b>Serial Communications</b>	<ul style="list-style-type: none"> <li>• One RS232, One RS422/485 RTC</li> <li>• RTC with Lithium coin cell battery</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>• Input – 24V DC (±25%) with protection Environmental Temperature Range</li> <li>• Operating range: -20°C to +65°C</li> <li>• Storage range: -30°C to +70°C</li> </ul>
<b>Mechanical</b>	<ul style="list-style-type: none"> <li>• Rugged aluminum and stainless-steel housing for optimal thermal management and durability</li> <li>• IP20 – Protection against particles</li> <li>• Mounting orientation options:                             <ul style="list-style-type: none"> <li>– Flat mount with included mounting bracket</li> <li>– VESA Mount option with screen attached (75 x 75 on small, 100 x 100 on large)</li> </ul> </li> </ul>
<b>Operating System</b>	<ul style="list-style-type: none"> <li>• Microsoft® Windows® 10 IOT LTSC</li> </ul>
<b>Certifications</b>	<ul style="list-style-type: none"> <li>• UL1950, CE class A, FCC-A</li> </ul>

## Dimensions

SIZE	PROCESSOR	LENGTH	WIDTH	HEIGHT
Small	Dual Core	180.8mm (7.12in)	119mm (4.69in)	37mm (1.46in)
Large	Quad Core	298.3mm (11.74in)	160mm (6.30in)	33.7mm (1.33in)

## Ordering Information

PART NUMBER	DESCRIPTION
R2L0N1A1A	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 32GB SSD, 2xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1A0A	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 32GB SSD, 2xRJ45, No OS
R2L0N1A1B	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 64GB SSD, 2xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1A0B	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 64GB SSD, 2xRJ45, No OS
R2L0N1A1C	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 128GB SSD, 2xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1A0C	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 4GB RAM, 128GB SSD, 2xRJ45, No OS
R2L0N2A1C	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 8GB RAM, 128GB SSD, 2xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N2A0C	RXi2 – LP IPC, Dual Core GX-210HL 1GHz, 8GB RAM, 128GB SSD, 2xRJ45, No OS
R2L0N1B1A	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 32GB SSD, 4xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1B0A	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 32GB SSD, 4xRJ45, No OS
R2L0N1B1B	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 64GB SSD, 4xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1B0B	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 64GB SSD, 4xRJ45, No OS
R2L0N1B1C	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 128GB SSD, 4xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N1B0C	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 4GB RAM, 128GB SSD, 4xRJ45, No OS
R2L0N2B1C	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 8GB RAM, 128GB SSD, 4xRJ45, Windows 10 IOT Enterprise LTSC
R2L0N2B0C	RXi2 – LP IPC, Quad Core GX-412GC 1.2GHz, 8GB RAM, 128GB SSD, 4xRJ45, No OS
R2LACCSMNT	RXi2 – LP IPC Flat Mounting Bracket Small
R2LACCLMNT	RXi2 – LP IPC Flat Mounting Bracket Large

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# RXi2-EP Industrial PC

## The Next Generation of Ruggedized Computing



GE's Automation & Controls 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-EP IPC delivers compact, rugged, mid-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 graphics capabilities with the added expandability of 0, 1, 2 or 4 PCI Express slots and CFast storage, the RXi2-EP is ideal for a range of demanding industrial applications.

### High-Performance Computing

GE selected the latest AMD processors based on their unmatched performance. The RXi2-EP IPC has up to 16GB of ECC RAM, 5 Gigabit Ethernet interfaces, and industrial grade high-speed HDD storage (or optional SSD disk storage) to complete the high-performance design.

These features make the RXi2-EP IPC the perfect platform for running GE's Proficy\* software applications or other industrial applications right at the machine, even in the harshest environments.

The RXi2-EP IPC provides additional application flexibility with both mini PCI Express and low-profile PCI Express slots. This expandability combined with advanced CPUs delivers high-performance, graphically powerful computing.

To help keep data and operations secure, the RXi2-EP utilizes Trusted Platform Module (TPM) and Secure Boot technology.

### Greater Uptime

All aspects of the RXi2-EP IPC have been engineered for reliability in harsh environments, from the use of all industrial grade components to its fanless design.

The core of the RXi2-EP IPC architecture is GE's rugged COM Express modular CPU platform. GE 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-EP IPC combines high performance with reliability, enhancing productivity and reducing cost of ownership.

The RXi2-EP 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
2 <sup>nd</sup> Gen AMD R-Series APU	<ul style="list-style-type: none"> <li>Delivers high-performance computing for applications that load, manipulate and store large amounts of data, or handle multiple communication ports in real-time</li> </ul>
Fanless operation	<ul style="list-style-type: none"> <li>A robust, reliable solution with no moving parts and minimized dust contamination</li> </ul>
5 Gigabit Ethernet ports (four with Time SYNC IEEE1588 and 802.1AS)	<ul style="list-style-type: none"> <li>Network implementation flexibility</li> <li>Multiple high-speed Ethernet links for communication-centric applications with support for deterministic transfer of data/commands</li> </ul>
0, 1, 2 or 4 PCIe Expansion slots	<ul style="list-style-type: none"> <li>Add new functionality on demand to support specific application needs</li> </ul>

## Specifications

### Processor

- 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

### Memory

- Up to 16 GB DDR3L-1866
- Soldered, with ECC

### Storage Interfaces

- 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

### Wireless Communication

- LTE modem option using Mini-PCIE with UIM card holder
- Wifi/Bluetooth radio option using M.2 expansion slot

### Video/Graphics Interface

- Twin DisplayPort++ 1.2 for a total of 4 independent displays

### USB Interface

- Four USB 3.0 external
- Two USB 2.0 internal

### Serial Communications

- 2 to 4 channels
- Two RS232, two RS422/485

### Expansion

- Mini-PCIE card site for NvSRAM card, LTE modem, or other
- M.2 communications slot for WiFi and Bluetooth
- PCI Express expansion slots:
  - Zero
  - One Gen3 x4
  - Two Gen2 x4
  - Four One Gen2 x4, 3 Gen2 x1

### Non-Volatile Memory

- 512 KB, 1MB or 2MB NvSRAM
- Storage for process relevant data
- NvSRAM option uses mini-PCIE slot

### LED

- Power, TPM, Temperature, SATA
- Ethernet Link/Activity
- One User Defined LED

### Others

- Timers: Legacy PC-AT, HPET
- Twin Watchdog Timers (OS, application)
- Thermal monitoring
- RTC with Lithium coin cell battery

### Power

- Input: 24V DC (±25%) with protection

### 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 to +60°C <sup>1</sup>	-40°C to +85°C
Extended	-40°C to +70°C <sup>2</sup>	-40°C to +85°C

<sup>1</sup> At 100% CPU load temperature range requires vertical orientation of the heat sink fins at free convection.

<sup>2</sup> 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.

Note: Operating temperatures higher than +70°C are possible. For detailed recommendations please contact support team.

	Operating	Storage
Humidity	5-95% @ +40°C	5-95% @ +40°C
Altitude	6,600 ft. (2.0km)	40000 ft. (12 km)

### BIOS

- UEFI AMI Aptio® 5

### Dimensions (H x W x D)

- 0 slot: 252 x 203 x 108.5 mm (9.92 x 8 x 4.24 in)  
Weight: 4,2kg
- 2 slot: 252 x 203 x 155.5 mm (9.92 x 8 x 6.13 in)  
Weight: 4,4kg

### 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® 7 Professional 64-Bit
- Microsoft® Windows® 10 Professional 64-Bit
- Linux kernel 4.4
- VXWorks 7.0

### Safety

- Designed to meet standard UL1950, CE class A, FCC-A
- Designed to meet marine class A



Slim version available

## Ordering Information

PART NUMBER	DESCRIPTION	OPERATING TEMPERATURE
<b>R2E0N1A0A1TOA</b>	Quad Core 2.7GHz, 0 Slot, 128GB SSD, 16GB DDR3L, 2xRS232, 5xRJ45, No OS	0°C to +60°C
<b>R2E0N1A1A1TOA</b>	Quad Core 2.7GHz, 0 Slot, 128GB SSD, 16GB DDR3L, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
<b>R2E0N1C0A1TOA</b>	Dual Core 2.2GHz, 0 Slot, 128GB SSD, 8GB DDR3L, 2xRS232, 5xRJ45, No OS	0°C to +60°C
<b>R2E0N1C1A1TOA</b>	Dual Core 2.2GHz, 0 Slot, 128GB SSD, 8GB DDR3L, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
<b>R2E2N1A0A2TOA</b>	Quad Core 2.7GHz, 2 Slot, 128GB SSD, 16GB DDR3L, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
<b>R2E2N1A1A2TOA</b>	Quad Core 2.7GHz, 2 Slot, 128GB SSD, 16GB DDR3L, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
<b>R2E2N1C0A2TOA</b>	Dual Core 2.2GHz, 2 Slot, 128GB SSD, 8GB DDR3L, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
<b>R2E2N1C1A2TOA</b>	Dual Core 2.2GHz, 2 Slot, 128GB SSD, 8GB DDR3L, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C



# RXi2-XP Industrial PC

## The Next Generation of Ruggedized Computing



GE's Automation & Controls 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-XP 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 computing capabilities with the added expandability of 0, 1, 2 or 4 PCI Express slots and CFast storage, the RXi2-XP is ideal for a range of demanding industrial applications.

### High-Performance Computing

GE selected the latest Intel processors based on their unmatched performance. The RXi2-XP IPC has up to 32GB of ECC RAM, 5 Gigabit Ethernet interfaces, and industrial grade high-speed HDD storage (or optional SSD disk storage) to complete the high-performance design.

These features make the RXi2-XP IPC the perfect platform for running GE's Proficy\* software applications or other industrial applications right at the machine, even in the harshest environments.

The RXi2-XP IPC 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.

To help keep data and operations secure, the RXi2-XP utilizes Trusted Platform Module (TPM) and Microsoft Secure Boot technology.

### Greater Uptime

All aspects of the RXi2-XP IPC have been engineered for reliability in harsh environments, from the use of all industrial grade components to its fanless design. The core of the RXi2-XP IPC architecture is GE's rugged COM Express modular CPU platform. GE 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-XP IPC combines high performance with reliability, enhancing productivity and reducing cost of ownership.

The RXi2-XP 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
6th Generation Intel® Core™ i3, i5, i7 and Xeon® CPUs	<ul style="list-style-type: none"> <li>Delivers high-performance computing for applications that load, manipulate and store large amounts of data, or handle multiple communication ports in real-time</li> </ul>
Fanless operation	<ul style="list-style-type: none"> <li>A robust, reliable solution with no moving parts and minimized dust contamination</li> </ul>
5 Gigabit Ethernet ports (four with Time SYNC IEEE1588 and 802.1AS)	<ul style="list-style-type: none"> <li>Network implementation flexibility</li> <li>Multiple high-speed Ethernet links for communication-centric applications with support for deterministic transfer of data/commands</li> </ul>
0, 1, 2 or 4 PCIe Expansion slots	<ul style="list-style-type: none"> <li>Add new functionality on demand to support specific application needs</li> </ul>

## Specifications

### Processor

- Intel® core™ i3-6102E Processor, 25W 2c 1.9GHz 3MB cache
- Intel® core™ i5-6440EQ Processor, 45W 4c 2.7GHz (-3.4GHz) 6MB no ECC
- Intel® core™ i7-6820EQ Processor, 45W 4c 2.8GHz (-3.5GHz) 8MB no ECC
- Intel® XEON® Processor E3-1505L v5, 25W 4c 2.0GHz (-2.8GHz) 8MB
- Intel® XEON® Processor E3-1505M v5, 45/35W 4c 2.8GHz (-3.7GHz) 8MB

### Memory

- Up to 32GB DDR4-2133
- Soldered, with ECC

### Storage Interfaces

- 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

### Wireless Communication

- LTE modem option using Mini-PCIE with UIM card holder
- Wifi/Bluetooth radio option using M.2 expansion slot

### Video/Graphics Interface

- Twin DisplayPort++ 1.2 for a total of 3 independent displays

### USB Interface

- Four USB 3.0 external
- Two USB 2.0 internal

### Serial Communications

- 2 to 4 channels
- Two RS232, two RS422/485

### Expansion

- Mini-PCIE card site for NvSRAM card, LTE modem, or other
- M.2 communications slot for WiFi and Bluetooth
- PCI Express expansion slots:
  - Zero
    - One Gen3 x4
    - Two Gen2 x4
  - Four 1 Gen2 x4, 3 Gen2 x1

### Non-Volatile Memory

- 512 KB, 1MB or 2MB NvSRAM
- Storage for process relevant data
- NvSRAM option uses mini-PCIE slot

### LED

- Power, TPM, Temperature, SATA
- Ethernet Link/Activity
- One User Defined LED

### Others

- Timers – Legacy PC-AT, HPET
- Twin Watchdog Timers (OS, application)
- Thermal monitoring
- RTC with Lithium coin cell battery

### Power

- Input – 24V DC (±25%) with protection

### 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 to +60°C <sup>1</sup>	-40°C to +85°C
Extended	-40°C to +70°C <sup>2</sup>	-40°C to +85°C

<sup>1</sup> At 100% CPU load temperature range requires vertical orientation of the heat sink fins at free convection.

<sup>2</sup> 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.

	Operating	Storage
Humidity	5-95% @ +40°C	5-95% @ +40°C
Altitude	6,600 ft. (2.0 km)	40000 ft. (12 km)

### BIOS

- UEFI AMI Aptio® 5

### Dimensions (H x W x D)

- 0 slot
  - 252 x 203 x 108.5 mm (9.92 x 8 x 4.24 in)
  - Weight – 4,2kg
- 1 slot
  - 252 x 203 x 132 mm (9.92 x 8 x 4.24 in)
  - Weight – 4,3kg
- 2 slot
  - 252 x 203 x 155.5 mm (9.92 x 8 x 6.13 in)
  - Weight – 4,4kg
- 4 slot
  - 252 x 203 x 108.5 mm (9.92 x 8 x 4.24 in)
  - Weight – 4,6kg

### 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 Professional 64-Bit
- Linux® Kernel 4.4
- VXWorks® 7.0

### Safety

- Designed to meet standard UL1950, CE class A, FCC-A
- Designed to meet marine class A

## Ordering Information

PART NUMBER	DESCRIPTION	OPERATING TEMPERATURE
<b>R2X0N1R0B1TOA</b>	Quad Core i7-6820EQ, 2.8GHz, 0 Slot, 256GB SSD, 16GB DDR4, 2xRS232, 5xRJ45, No OS	0°C to +60°C
<b>R2X0N1R1B1TOA</b>	Quad Core i7-6820EQ, 2.8GHz, 0 Slot, 256GB SSD, 16GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
<b>R2X1N1B0A1TOA</b>	Dual Core i3-6102E, 1.9GHz, 1 Slot, 128GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, No OS	0°C to +60°C
<b>R2X1N1B1A1TOA</b>	Dual Core i3-6102E, 1.9Hz, 1 Slot, 128GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
<b>R2X1N1C0A1TOA</b>	Quad Core XEON E3-1505Lv5, 2.0GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 5xRJ45, No OS	0°C to +60°C
<b>R2X1N1C1A1TOA</b>	Quad Core XEON E3-1505Lv5, 2.0GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
<b>R2X2N1C0B2TOF</b>	Quad Core XEON E3-1505Lv5, 2.0GHz, 2 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	-40°C to +70°C
<b>R2X4N1B0A2TOA</b>	Dual Core i3-6102E, 1.9GHz, 4 Slot, 128GB SSD, 8GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
<b>R2X4N1B1A2TOA</b>	Dual Core i3-6102E, 1.9GHz, 4 Slot, 128GB SSD, 8GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
<b>R2X4N1C0A2TOA</b>	Quad Core XEON E3-1505Lv5, 2.0GHz, 4 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
<b>R2X4N1C1A2TOA</b>	Quad Core XEON E3-1505Lv5, 2.0GHz, 4 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
<b>R2X4N1D0C2TOA</b>	Quad Core XEON E3-1505M, 2.8GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
<b>R2X4N1D1C2TOA</b>	Quad Core XEON E3-1505M, 2.8GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C

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# RXi2-UP Industrial PC

## The Next Generation of Ruggedized Computing



GE's Automation & Controls 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. Regardless of the processor you choose, the RXi2 family of IPCs (EP, XP & UP) offer all the functionality in the same shared chassis.

The RXi2-UP 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 computing capabilities with the added expandability of 0, 1, 2 or 4 PCI Express slots and CFast storage, the RXi2-UP is ideal for a range of demanding industrial applications.

### High-Performance Computing

GE selected the latest Intel processors based on their unmatched performance. The RXi2-UP IPC has up to 32GB of ECC RAM, 5 Gigabit Ethernet interfaces, and industrial grade SSD disk storage to complete the high-performance design.

These features make the RXi2-UP IPC the perfect platform for running GE's Proficy\* software applications or other industrial EDGE applications right at the machine, even in the harshest environments.

The RXi2-UP IPC 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.

The core of the RXi2-UP IPC architecture is GE's rugged COM Express modular CPU platform. GE incorporates patented thermal monitoring technology with sophisticated passive cooling techniques to provide the highest-performance, fanless industrial computing platform that can operate at peak computing performance in extended temperature ranges without having to throttle the CPU.

### Greater Uptime

All aspects of the RXi2-UP IPC have been engineered for reliability in harsh environments, from the use of all industrial grade components to its fanless design. To help keep data and operations secure, the RXi2-UP utilizes Trusted Platform Module (TPM) and Microsoft Secure Boot technology. Security coupled with RXi2-UP's strong shock and vibration resistance and available RAID storage options, in a RAID-0 or RAID-1 configuration, makes the RXi2-UP competitive in the IPC market.

### Enhanced Productivity & Lower TCO

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

The 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
<b>7th Generation Intel® Core™ i3, i5, i7 and Xeon® CPUs</b>	<ul style="list-style-type: none"> <li>Delivers high-performance computing for applications that load, manipulate and store large amounts of data, or handle multiple communication ports in real-time</li> </ul>
<b>Fanless operation</b>	<ul style="list-style-type: none"> <li>A robust, reliable solution with no moving parts and minimized dust contamination</li> </ul>
<b>5 Gigabit Ethernet ports (four with Time SYNC IEEE1588 and 802.1AS)</b>	<ul style="list-style-type: none"> <li>Network implementation flexibility</li> <li>Multiple high-speed Ethernet links for communication-centric applications with support for deterministic transfer of data/commands</li> </ul>
<b>0, 1, 2 or 4 PCIe Expansion slots</b>	<ul style="list-style-type: none"> <li>Add new functionality on demand to support specific application needs</li> </ul>
<b>Patented CPU Cooling Technology</b>	<ul style="list-style-type: none"> <li>Offers 100% CPU performance even as temperatures rise ensuring that your process always stays in control</li> </ul>



## Specifications

### Processor

- Intel® Core™ i3-7100E Processor, 35W 2c 2.9GHz 3MB cache no ECC
- Intel® Core™ i3-7102E Processor, 25W 2c 2.1GHz 3MB cache no ECC
- Intel® Core™ i5-7442EQ Processor, 25W 4c 2.1GHz (-2.9GHz) 6MB no ECC
- Intel® Core™ i7-7820EQ Processor, 35/45W 4c 3.0GHz (-3.7GHz) 8MB no ECC
- Intel® XEON® Processor E3-1505M v6, 35/45W 4c 3.0GHz (-4.0GHz) 8MB
- Intel® XEON® Processor E3-1505L v6, 25W 4c 2.2GHz (-3.0GHz) 8MB
- Intel® XEON® Processor E3-1501M v6, 45W 4c 2.9GHz (-3.6GHz) 6MB

### Memory

- Up to 32GB DDR4-2400
- Soldered, with ECC (depending on CPU)

### Storage Interfaces

- 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

### Wireless Communication

- LTE modem option using Mini-PCIE with UIM card holder
- Wifi/Bluetooth radio option using M.2 expansion slot

### Video/Graphics Interface

- Twin DisplayPort++ 1.2 for a total of 3 independent displays

### USB Interface

- Four USB 3.0 external
- Two USB 2.0 internal

### Serial Communications

- 2 to 4 channels
- Two RS232, two RS422/485

### Expansion

- Mini-PCIE card site for NvSRAM card, LTE modem, or other
- M.2 communications slot for WiFi and Bluetooth
- PCI Express expansion slots:
  - Zero
  - One: Gen3 x4
  - Two: 2x Gen2 x4
  - Four: 1x Gen2 x4, 3 Gen2 x1

### Non-Volatile Memory

- 512 KB, 1MB or 2MB NvSRAM
- Storage for process relevant data
- NvSRAM option uses mini-PCIE slot

### LED

- Power, TPM, Temperature, SATA
- Ethernet Link/Activity
- One User Defined LED

### Others

- Timers – Legacy PC-AT, HPET
- Twin Watchdog Timers (OS, application)
- Thermal monitoring
- RTC with Lithium coin cell battery

### Power

- Input – 24V DC (±25%) with protection

### 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 to +60°C <sup>1</sup>	-40°C to +85°C
Extended	-40°C to +70°C <sup>2</sup>	-40°C to +85°C

<sup>1</sup> At 100% CPU load temperature range requires vertical orientation of the heat sink fins at free convection.

<sup>2</sup> 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.

<sup>3</sup> Extended Temperature Range available upon request.

<sup>4</sup> RAID when using HDD Drives brings Operating Temperature limits down to a maximum of 40°C depending on chosen HDD and HDD workload.

	Operating	Storage
Humidity	5-95% @ +40°C	5-95% @ +40°C
Altitude	6,600 ft. (2.0 km)	40000 ft. (12 km)

### BIOS

- UEFI AMI Aptio® 5

### Dimensions (H x W x D)

- 0 slot
  - 252 x 203 x 108.5 mm (9.92 x 8 x 4.24 in)
  - Weight – 3,9kg
- 1 slot
  - 252 x 203 x 132 mm (9.92 x 8 x 5.2 in)
  - Weight – 4,2kg
- 2 slot
  - 252 x 203 x 155.5 mm (9.92 x 8 x 6.13 in)
  - Weight – 4,4kg
- 4 slot
  - 252 x 203 x 195.5 mm (9.92 x 8 x 7.7 in)
  - Weight – 4,7kg

### 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 Professional 64-Bit
- Linux® Kernel 4.9 (upon request)
- VXWorks® 7.0 (upon request)

### Safety

- UL 60950, CE class A, FCC-A

### EMC

- CE
- FCC

## Ordering Information

PART NUMBER	DESCRIPTION	OPERATING TEMPERATURE
R2U0N1B0A1TOA	RX12-UP IPC, Dual Core i3-7102E, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C to +60°C
R2U0N1B1A1TOA	RX12-UP IPC, Dual Core i3-7102E, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U0N1E0A1TOA	RX12-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C to +60°C
R2U0N1E1A1TOA	RX12-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 0 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U0N1J0B1TOA	RX12-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 0 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, No OS	0°C to +60°C
R2U0N1J1B1TOA	RX12-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 0 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U1N1B0A1TOA	RX12-UP IPC, Dual Core i3-7102E, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C to +60°C
R2U1N1B1A1TOA	RX12-UP IPC, Dual Core i3-7102E, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U1N1E0A1TOA	RX12-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, No OS	0°C to +60°C
R2U1N1E1A1TOA	RX12-UP IPC, Quad Core i5-7442EQ, 2.1GHz, 1 Slot, 128GB SSD, 8GB DDR4, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U1N1J1B1TOA	RX12-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 1 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U1N1F1A1TOA	RX12-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 1 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U1N1C0A1TOA	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
R2U1N1C1A1TOA	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 1 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U2N1J1B2TOA	RX12-UP IPC, Quad Core XEON E3-1501M, 2.9GHz, 2 Slot, 256GB SSD, 8GB DDR4 ECC, 2xRS232, 5xRJ45, Windows 10	0°C to +60°C
R2U2N1F1A2TOA	RX12-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 2 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U2N1D0A2TOA	RX12-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 2 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
R2U2N1D1A2TOA	RX12-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 2 Slot, 128GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U2N1C0B2TOF	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 2 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	-40°C to +70°C
R2U2N1C1B2TOF	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 2 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	-40°C to +70°C
R2U4N1F0A2TOA	RX12-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 4 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
R2U4N1F1A2TOA	RX12-UP IPC, Quad Core i7-7820EQ, 3.0GHz, 4 Slot, 128GB SSD, 16GB DDR4, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U4N1C0B2TOA	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 4 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
R2U4N1C1B2TOA	RX12-UP IPC, Quad Core XEON E3-1505Lv6, 2.2GHz, 4 Slot, 256GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U4N1D0C2TOA	RX12-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, No OS	0°C to +60°C
R2U4N1D1C2TOA	RX12-UP IPC, Quad Core XEON E3-1505Mv6, 3.0GHz, 4 Slot, 512GB SSD, 32GB DDR4 ECC, 2xRS232, 2xRS422/485, 5xRJ45, Windows 10	0°C to +60°C
R2U2N1C1A1T1A	RX12-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 to +60°C
R2U4N1D1A2T1A	RX12-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 to +60°C

## Accessories

PART NUMBER	DESCRIPTION
R2X00ACCMPO5	Flat Mounting Kit