PACSystems™ IPC 6010, IPC 7010, IPC 8010

An AI ready platform for Powerful, Reliable, Ruggedized Computing

Emerson's next-generation IPC platform includes the IPC 6010, IPC 7010, and IPC 8010, each delivering high-performance computing and graphical capabilities in a ruggedized package Like other award-winning products in the PACSystems IPC product line, this computing platform boasts high reliability and a long deployment life thanks to fanless cooling and soldered memory. Its industrial grade features include the microprocessor, the memory, and even the operating system, which can come paired with pre-loaded, pre-licensed edge software, that enables customized data collection and aggregation, data protocol conversion, and advanced analytics applications for real time optimization and visualization of operations.

These high powered IPCs are well suited to processing time-series data from various sources like PLC's, cameras, sensors, flow meters or valve manifolds, powering HMI, Historian, and analytical solutions for remote monitoring, leak detection, and preventative maintenance applications.

High-Performance Computing

Experience unparalleled performance with PACSystems AI generation IPCs, powered by the 13th Generation Intel® Core™ Processors. Benefit from up to 64GB of ECC RAM, five 2.5 GB Ethernet interfaces, and industrial-grade high-speed SSD storage, ensuring your industrial applications run smoothly even in the harshest environments. Enjoy the flexibility of up to 4 PCIe slots, which are field upgradeable to meet your evolving needs. Advanced CPUs combined with PCIe expandability deliver high performance computing tailored to your requirements. Keep your data and operations secure with Trusted Platform Module (TPM) and Microsoft Secure Boot technology.

Software Options and Benefits

PACSystems AI generation IPCs come with everything you need to start creating value out-of- the box. An IIoT-ready Linux operating system and PACEdge application enablement platform come pre-installed from the factory. In addition, there are options to add pre-loaded and pre-licensed Movicon® Connext and Movicon WebHMI software, enabling additional functionality and benefits as detailed in the following table.

Product Name	Functionality and Benefits
PACEdge	An application enablement platform for the development of scalable data intensive Industry 4.0 solutions. It provides integration between OT and IT domains without disrupting OT assets, architectures or systems while satisfying IT cybersecurity, communications and application requirements. PACEdge is capable of supporting integrations and architectures ranging from IIoT gateways and remote monitoring to edge AI/ML analytics and data visualization. The PACEdge software environment provides all the tools necessary to collect, store, process, share, visualize, secure and integrate data allowing users to focus on applications and solutions instead of tools and platforms
PACEdge with Movicon Connext	A gateway communications center for Machine to Machine, Cloud and IIOT connectivity systems that facilitates data collection, analysis, and reporting. Connext quickly and intuitively links a multitude of devices for better data flow. With its built-in protocol libraries, Connext can collect and publish data to the cloud, manage information flows to business systems, or connect field devices to software applications or to each other effortlessly and safely.
PACEdge with Movicon Connext and WebHMI	A comprehensive solution for delivering visualization and data collection that also maintains a seamless, intuitive experience. Whether users are accessing critical data directly in the plant, collecting information via a workstation in a control room, or checking system performance via mobile device from outside the facility, powerful visualization tools ensure a consistent display for fast delivery and interpretation of critical data

For more information:
www.Emerson.com/PACSystems

PACSYSTEMS™

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Replace with Reliability

PACSystems IPCs are engineered for reliability in demanding environments. Their high-quality industrial components, rugged design, and fanless operation ensure consistent performance for both commercial and industrial applications. This next-generation IPC platform is built for long-lasting reliability.

Lower Total Cost of Ownership (TCO)

Built on Emerson's rugged monolithic base board and patented thermal management system housing, PACSystems IPCs enhance productivity and reduce TCO. Key features such as pre-loaded and pre-licensed edge software, low maintenance, and low power consumption contribute to lower operating costs and higher efficiency.

Feature	Benefit
13th Generation Intel® Core™ Processors	13th Gen Inte® Core™ mobile processors for IoT edge drive consistent performance and offer accelerated AI, immersive graphics, and industrial-grade capabilities in a compact, ruggedized form factor with a range of power bases. 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.
Five 2.5 Gigabit Ethernet ports (all with Time SYNC IEEE1588 and one with AMT)	Network implementation flexibility. Multiple high-speed Ethernet links for communi-cation-centric applications with support for deterministic transfer of data/commands.
Small Form Factor	Mounting options provide flexibility for where the IPC can be installed. DIN Rail, panel and VESA Mounting available.

Specifications[1]

Processor: 13th Generation Intel® Core™ Processors with 15/28/45W TDP		
IPC 6010 (15W TDP)	**IPC 7010 (28W TDP)**	**IPC 8010 (45W TDP)**
A: U300E 1xPC, 4xEC, CT	J: i3-1320PE 4xPC, 4xEC, CT	R: i3-13300HE 4xPC, 4xEC, CT
B: I3-1315UE 2xPC, 4xEC, CT	L: i5-1350PE 4xPC, 8xEC, CT	S: i5-13600HE 4xPC, 8xEC, CT
D: i5-1345UE 2xPC, 8xEC, CT	M: i7-1370PE 6xPC, 8xEC, CT	T: i7-13800HE 6xPC, 8xEC, CT
E: i7-1365UE 2xPC, 8xEC, CT	N: i3-1320PRE 4xPC, 4xEC, ET	U: i3-13300HRE 4xPC, 4xEC, ET
G: i3-1315URE 2xPC, 4xEC, ET	P: i5-1350PRE 4xPC, 8xEC, ET	V: i5-13600HRE 4xPC, 8xEC, ET
H: i5-1345URE 2xPC, 8xEC, ET	Q: i7-1370PRE 6xPC, 8xEC, ET	W: i7-13800HRE 6xPC, 8xEC, ET
I: i7-1365URE 2xPC, 8xEC, ET	-	-
PC: Performance Core, EC: Efficiency Core, CT: Commercial Temperature, ET: Extended Temperature		
Memory		
Up to 64GB LPDDR5-6400, soldered with ECC		
Storage Interfaces		
Primary storage device – M.2 NVMe 16GT/s		
Micro-SD slot, user accessible, supports OS boot, hot plug		
Ethernet		
Five 10/100/1000/2500BASE-T Ethernet ports, option to enable AMT remote management functionality on one port		

Wireless Communication			
Models are available with optional WiFi6E connectivity (802.11ac/ax/a/b/g/n & Bluetooth 5.3)			
Graphics Interface			
Two DisplayPort++ HBR3 support (4 independent displays)			
USB Interface			
Four USB 3.2 Gen 2x1 (10Gbit/s)			
Thunderbolt™ 4 Interface			
Thunderbolt™ 4 over USB-C			
Serial Communications			
Two galvanically isolated RS-232		Two galvanically isolated RS422/485	
Expansion			
Up to four field upgradeable PCIe slots			
User-Defined LED			
One combined green and red color user-defined LED			
Others			
OS and application watchdog timers	Thermal monitoring	RTC with Lithium coin cell battery	
Power			
Input: 24 VDC (±25%) with surge protection, maximum current 4.0 A		9-30V wide range standard for 6010 base unit (w/o slot extension)	
Environmental			
Thermal performance is highly dependent on end application workload, pre-configured processor TDP value, installed expansion cards, IPC mounting orientation etc. Please consult Hardware Reference Manual for details and recommendations.	**Range**	**Operating[2]**	**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. (2.0 km)	40000 ft. (12 km)
Firmware			
UEFI AMI Aptio® V			
Base Unit			
Base Unit - w/o Extension	6010 (Low Power, Slim)	7010 (Advanced)	8010 (High End)
			
Mechanical			
Rugged aluminum and stainless-steel housing for optimal thermal management and durability			
IP20 – Protection against particles			

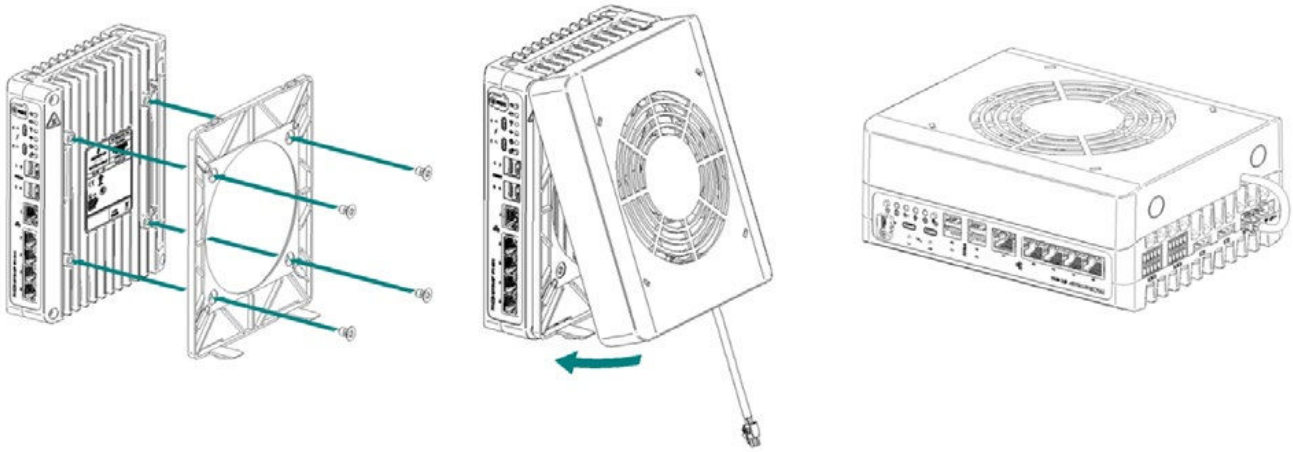
1 Additional features may be added by customization, please contact your regional sales representative to inquire.
2 Operating temperature is dependent on the CPU and SSD choice, application software, orientation of the heat sink fins at free convection.
For detailed recommendations please refer to Hardware Reference Manual or contact support team.

Extension Availability & Dimensions H x W x D (mm)			
	IPC 6010	**IPC 7010**	**IPC 8010**
Base Unit - w/o Extension	191 x 158 x 44.4 (mm)*	191 x 158 x 60 (mm)	191 x 158 x 60 (mm)
1 Slot Extension	191 x 158 x 76.8 (mm)	191 x 158 x 92.4 (mm)	191 x 158 x 92.4 (mm)
2 Slot Extension	N/A	191 x 158 x 112.7 (mm)	191 x 158 x 112.7 (mm)
3 Slot Extension	N/A	191 x 158 x 133 (mm)	191 x 158 x 133 (mm)
4 Slot Extension	N/A	N/A	191 x 158 x 153.3 (mm)
Power Supply: 24 V +/-10 % (Standard), * 9-30 V (Wide Range)			
Weight (kg)			
	IPC 6010	**IPC 7010**	**IPC 8010**
Base Unit - w/o Extension	2.1 kg	2.5 kg	2.5 kg
1 Slot Extension	2.8 kg	3.2 kg	3.2 kg
2 Slot Extension	N/A	3.4 kg	3.4 kg
3 Slot Extension	N/A	3.6 kg	3.6 kg
4 Slot Extension	N/A	N/A	3.8 kg
Mounting Options			
	IPC 6010	**IPC 7010**	**IPC 8010**
Base Unit - w/o Extension	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount
1 Slot Extension	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount
2 Slot Extension	N/A	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount
3 Slot Extension	N/A	DIN Rail, VESA***, Panel - Mount	DIN Rail, VESA***, Panel - Mount
4 Slot Extension	N/A	N/A	DIN Rail, VESA***, Panel - Mount
Mounting Options: VESA 100 mm x 100 mm (4 x M6), * reduced S&V levels, ** Qty 2 of the Mounting Kit are needed, *** Fan Accessory cannot be used with VESA mounting			

Mounting Options / Accessories	
DIN Rail Mounting Kit	R2B00ACCRM01
Panel Mounting Kit	R2B00ACCMP01
Fan Accessory	RPF120

Slot Extensions				
				
Base Unit - w/o Extension	1	2	3	4
Slot 1	Gen4x4	Gen4x4	Gen4x4	Gen4x4
Slot 2	N/A	Gen3x1	Gen3x1	Gen3x1
Slot 3	N/A	Gen 3x1	Gen3x1	Gen3x1
Slot 4	N/A	N/A	N/A	Gen4x8
Full Height Half Length PCIe cards are supported, max. power budget per slot extension 25 W (for more details consult manual)cannot be used with VESA mounting				

Fan Accessory (Optional)



The fan accessory is not needed to operate the unit within its temperature limits. The PACSystems IPC 6010/7010/8010 is a fanless design.
The fan accessory can be used to maintain device operation in emergency mode during unexpected overheating.
Or when used during normal operation, the fan accessory kit reduces the enclosure temperature to approximately ambient temperature plus 10°C, depending on the configuration.

Software Support		
Windows® 10 IoT Enterprise 2021 LTSC	Linux® Ubuntu® 24.04 LTS, and above (not pre-loaded except when buying PACEdge™ option)	VxWorks® 7.0 (pre-loaded for PACEdge™ option, contact factory for details)
Safety & EMC		
IEC/UL62368	CE, FCC	• UL Listed US/CAN Hazardous Locations: Class 1 Division 2 Groups ABCD • ATEX Zone 2

Understanding the Part Numbers Nomenclature

PRODUCT CODE

R P B 8 W 5 B 3 A 0 L 0 F

Product Line
6: 6010 - Low Power, Slim (15W)
7: 7010 - Advanced (28W)
8: 8010 - High End (45W)

Ambient Class
A: 0°C up to 70°C commercial temperature
F: -40°C up to 70°C extended temperature

Add In Modules
N: no add-ins
B: Wi-Fi
D: AI
E: NVRAM
F: Wi-Fi + NVRAM
G: AI + Wi-Fi
H: AI + NVRAM
L: Wi-Fi + AI + NVRAM

Processor

*	
6	**A:** U300E 1xPC, 4xEC, CT
6	**B:** i3-1315UE 2xPC, 4xEC, CT
6	**D**: i5-1345UE 2xPC, 8xEC, CT
6	**E:** i7-1365UE 2xPC, 8xEC, CT
6	**G**: i3-1315URE 2xPC, 4xEC, ET
6	**H:** i5-1345URE 2xPC, 8xEC, ET
6	**I:** i7-1365URE 2xPC, 8xEC, ET
7	**J:** i3-1320PE 4xPC, 4xEC, CT
7	**L:** i5-1350PE 4xPC, 8xEC, CT
7	**M:** i7-1370PE 6xPC, 8xEC, CT
7	**N:** i3-1320PRE 4xPC, 4xEC, ET
7	**P:** i5-1350PRE 4xPC, 8xEC, ET
7	**Q**: i7-1370PRE 6xPC, 8xEC, ET
8	**R:** i3-13300HE 4xPC, 4xEC, CT
8	**S:** i5-13600HE 4xPC, 8xEC, CT
8	**T:** i7-13800HE 6xPC, 8xEC, CT
8	**U:** i3-13300HRE 4xPC, 4xEC, ET
8	**V:** i5-13600HRE 4xPC, 8xEC, ET
8	**W:** i7-13800HRE 6xPC, 8xEC, ET

RAM
1: 4 GB LPDDR5
2: 8 GB LPDDR5
3: 16 GB LPDDR5
4: 32 GB LPDDR5
5: 64 GB LPDDR5

MRAM
N: no MRAM
B: 8Mb MRAM populated (PCI12000 connection)

SSD
0: no SSD
2: 128 GB SSD M.2
3: 256 GB SSD M.2
4: 512 GB SSD M.2
5: 1 TB SSD M.2
6: 2 TB SSD M.2
7: 4 TB SSD M.2

Operating System
N: no OS
A: Windows IoT 2021
E: PACEdge
L: Linux

* Processor availability based on Product Line

Ordering Information:

Part Number	Description	Operating Temperature
RPB6A1N2N0N0A	PACSystems IPC 6010, U300E, 4 GB LPDDR5, 128 GB SSD	0°C up to 70°C
RPB6A2N2N0N0A	PACSystems IPC 6010, U300E, 8 GB LPDDR5 , 128 GB SSD	0°C up to 70°C
RPB6A3N2N0N0A	PACSystems IPC 6010, U300E, 16 GB LPDDR5 , 128 GB SSD	0°C up to 70°C
RPB6A1N2A0N0A	PACSystems IPC 6010, U300E, 4 GB LPDDR5, 128 GB SSD, Windows IoT 2021	0°C up to 70°C
RPB6A2N2A0N0A	PACSystems IPC 6010, U300E, 8 GB LPDDR5 , 128 GB SSD, Windows IoT 2021	0°C up to 70°C
RPB6A3N2A0N0A	PACSystems IPC 6010, U300E, 16 GB LPDDR5 , 128 GB SSD, Windows IoT 2021	0°C up to 70°C
RPB6B2N2N0N0A	PACSystems IPC 6010, i3-1315UE, 8 GB LPDDR5 , 128 GB SSD	0°C up to 70°C
RPB6D3N2N0N0A	PACSystems IPC 6010, i5-1345UE, 16 GB LPDDR5, 128 GB SSD	0°C up to 70°C
RPB6E4N2N0N0A	PACSystems IPC 6010, i7-1365UE, 32 GB LPDDR5, 128 GB SSD	0°C up to 70°C
RPB6F2N2N0N0A	PACSystems IPC 6010, U300RE, 8 GB LPDDR5, 128 GB SSD	0°C up to 70°C
RPB6G2N2N0N0F	PACSystems IPC 6010, i3-1315URE, 8 GB LPDDR5, 128 GB SSD	-40°C up to 70°C
RPB6H3N2N0N0F	PACSystems IPC 6010, i5-1345URE, 16 GB LPDDR5, 128 GB SSD	-40°C up to 70°C
RPB6I4N2N0N0F	PACSystems IPC 6010, i7-1365URE, 32 GB LPDDR5, 128 GB SSD	-40°C up to 70°C
RPB6I4N2A0N0F	PACSystems IPC 6010, i7-1365URE, 32 GB LPDDR5, 128 GB SSD, Windows IoT 2021	-40°C up to 70°C
RPB7J2N2N0N0A	PACSystems IPC 7010, i3-1320PE, 8 GB LPDDR5 , 128 GB SSD	0°C up to 70°C
RPB7L3N3N0N0A	PACSystems IPC 7010, i5-1350PE, 16 GB LPDDR5, 256 GB SSD	0°C up to 70°C
RPB7M4N3N0N0A	PACSystems IPC 7010, i7-1370PE, 32 GB LPDDR5, 256 GB SSD	0°C up to 70°C
RPB7N2N2N0N0F	PACSystems IPC 7010, i3-1320PRE, 8 GB LPDDR5, 128 GB SSD	-40°C up to 70°C
RPB7P3N3N0N0F	PACSystems IPC 7010, i5-1350PRE, 16 GB LPDDR5, 256 GB SSD	-40°C up to 70°C
RPB7Q4N3N0N0F	PACSystems IPC 7010, i7-1370PRE, 32 GB LPDDR5, 256 GB SSD	-40°C up to 70°C
RPB7Q4N3A0N0F	PACSystems IPC 7010, i7-1370PRE, 32 GB LPDDR5, 256 GB SSD, Windows IoT 2021	-40°C up to 70°C
RPB8R3N4N0N0A	PACSystems IPC 8010, i3-13300HE, 16 GB LPDDR5, 512 GB SSD	0°C up to 70°C
RPB8S4N5N0N0A	PACSystems IPC 8010, i5-13600HE, 32 GB LPDDR5, 1 TB SSD	0°C up to 70°C
RPB8T5N5N0N0A	PACSystems IPC 8010, i7-13800HE, 64 GB LPDDR5, 1 TB SSD	0°C up to 70°C
RPB8U3N4N0N0F	PACSystems IPC 8010, i3-13300HRE, 16 GB LPDDR5, 512 GB SSD	-40°C up to 70°C
RPB8V4N5N0N0F	PACSystems IPC 8010, i5-13600HRE, 32 GB LPDDR5, 1 TB SSD	-40°C up to 70°C
RPB8W5N5N0N0F	PACSystems IPC 8010, i7-13800HRE, 64 GB LPDDR5, 1 TB SSD	-40°C up to 70°C
RPB8W5N5A0N0F	PACSystems IPC 8010, i7-13800HRE, 64 GB LPDDR5, 1 TB SSD, Windows IoT 2021	-40°C up to 70°C
RPB6E3N3A0G0A	PACSystems IPC 6010, i7-1365UE, 16 GB LPDDR5, 256 GB SSD, Windows IoT 2021, AI + Wifi	0°C up to 70°C

Slot Extensions:

Part Number	Product	Product Description
RPE444A0A0A0F	PACSystems IPC Slot Extension - 4 Slots	PACSystems IPC Extension Unit; 4 PCIe Slots; PERC44; no PCIe Card; -40°C up to 70°C - extended temperature
RPE343A0A0A0F	PACSystems IPC Slot Extension - 3 Slots	PACSystems IPC Extension Unit; 3 PCIe Slots; PERC43; no PCIe Card; -40°C up to 70°C - extended temperature
RPE242A0A0A0F	PACSystems IPC Slot Extension - 2 Slots	PACSystems IPC Extension Unit; 2 PCIe Slots; PERC42; no PCIe Card; -40°C up to 70°C - extended temperature
RPE141A0A0A0F	PACSystems IPC Slot Extension - 1 Slot	PACSystems IPC Extension Unit; 1 PCIe Slots; PERC41; no PCIe Card; -40°C up to 70°C - extended temperature

Mounting and Accessories

Part Number	Product Description
R2B00ACCRM01	PACSystems IPC DIN Rail Mounting Kit
R2B00ACCMP01	PACSystems IPC Panel Mounting Kit
RPF120	PACSystems IPC Fan Accessory