

RKP-C220 Series

2U rackmount computers with Raptor Lake-S 13th Gen Intel® Core™ processor base model and rich interface models



Features and Benefits

- 13th Gen Intel® Core™ Raptor Lake-S processor and Intel® Q670E chipset
- 2U rackmount computers with fanless design
- Supports NVIDIA RTX Series FLFH GPU card up to 200 W TDP
- 2 SODIMM sockets support up to 64 GB
- 3 PCIe slots for expansion modules: x16 (with GPU support), x8 (4-lane), and x1 PCIe slots
- Rich set of interfaces: Up to 8 LAN ports, up to 10 serial ports, and 2 CAN ports
- 2 lockable 2.5" SATA SSD slots and 3 extendable M.2 M key SSD slots for supporting 2 sets of Intel® RST RAID 0/1
- -30 to 60°C operating temperature range

Certifications



Introduction

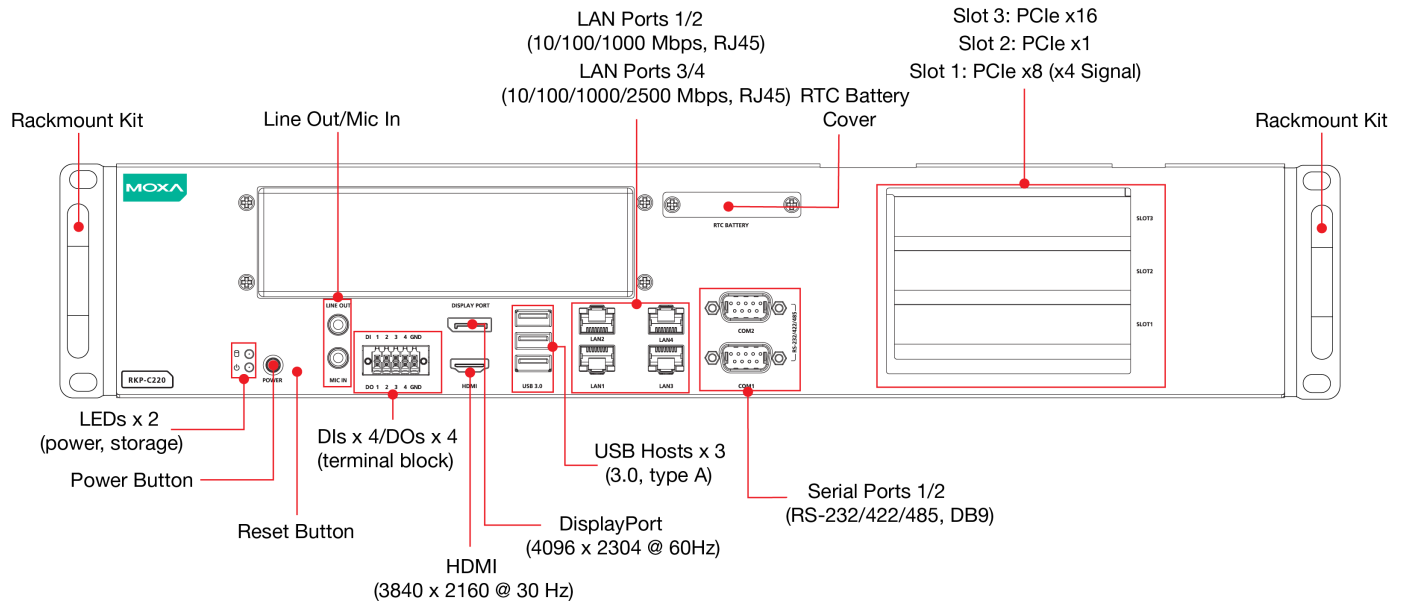
The RKP-C220 Series rugged fanless rackmount computers powered by a 13th Gen Intel® Core™ i3, i5, i7, or i9 processor with up to 24 cores and 32 threads, and a rich set of interface options can easily extend the potential of your industrial applications. The computer models come with a rich set of interfaces including up to 8 Gigabit Ethernet ports, 10 software-selectable RS-232/422/485 serial ports (Moxa in-house IC design), up to 2 CAN ports, and 4 DI and 4 DOs. Expansion modules can be installed via 3 PCIe slots, including a x16 slot that supports full-length discrete GPU cards for AI-accelerated performance, a x8 (4-lane) slot, and a x1 slot. Two lockable 2.5" SSD storage slots and three M.2 M key SSD extension slots support two sets of Intel® RST RAID 0/1. All interfaces are located on one side of the product for convenient access and wire stripping while an external RTC battery slot simplifies battery replacement.

A 2U standard form factor with a rackmount chassis, fanless design, a wide temperature range of -30 to 60°C, an additional fan module to increase performance, and a built-in TPM 2.0 module, make the computers reliable, durable, versatile yet user-friendly industrial platforms in harsh operating environments. The RKP-C220 Series is an intelligent computing platform that is a perfect fit for your industrial applications.

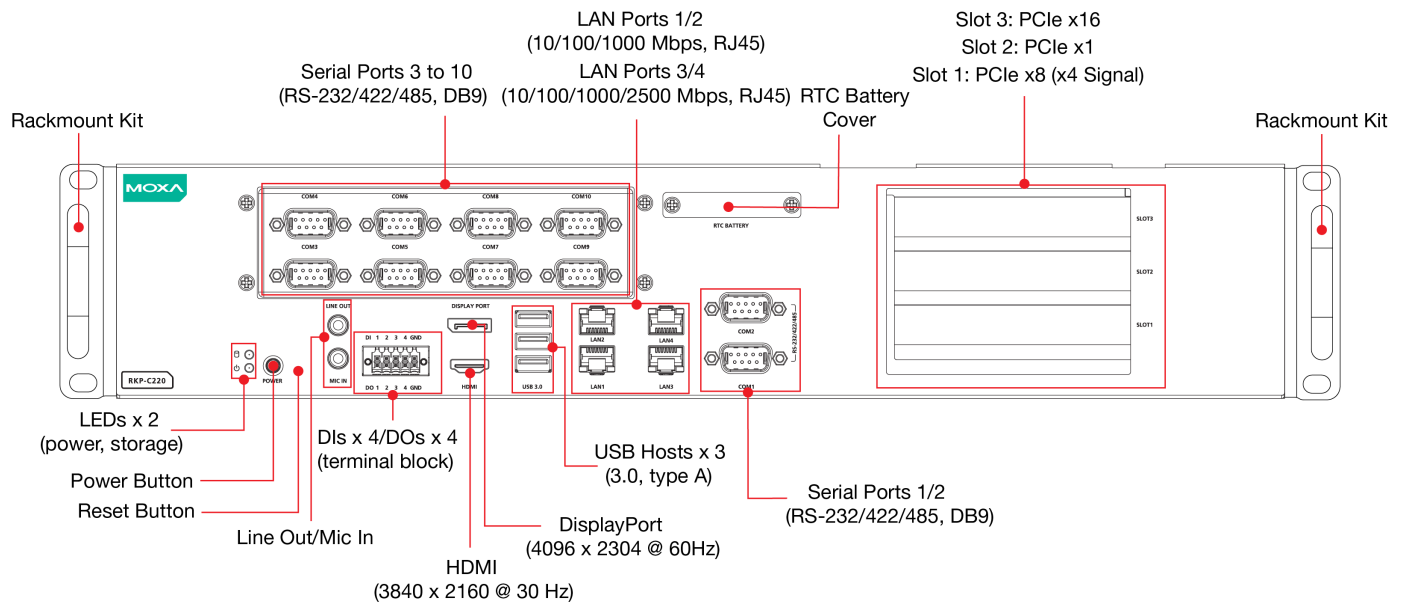
Appearance

Front View

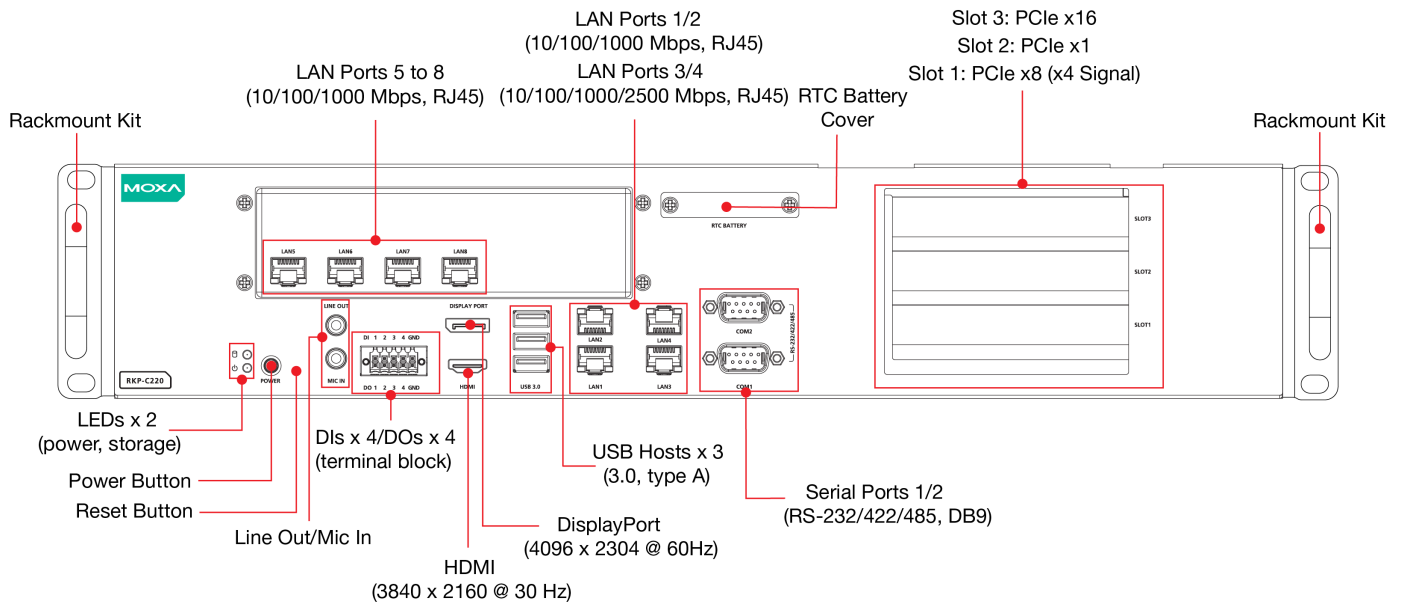
RKP-C220-C3-T/ RKP-C220-C5-T/ RKP-C220-C7-T/ RKP-C220-C9-T Models



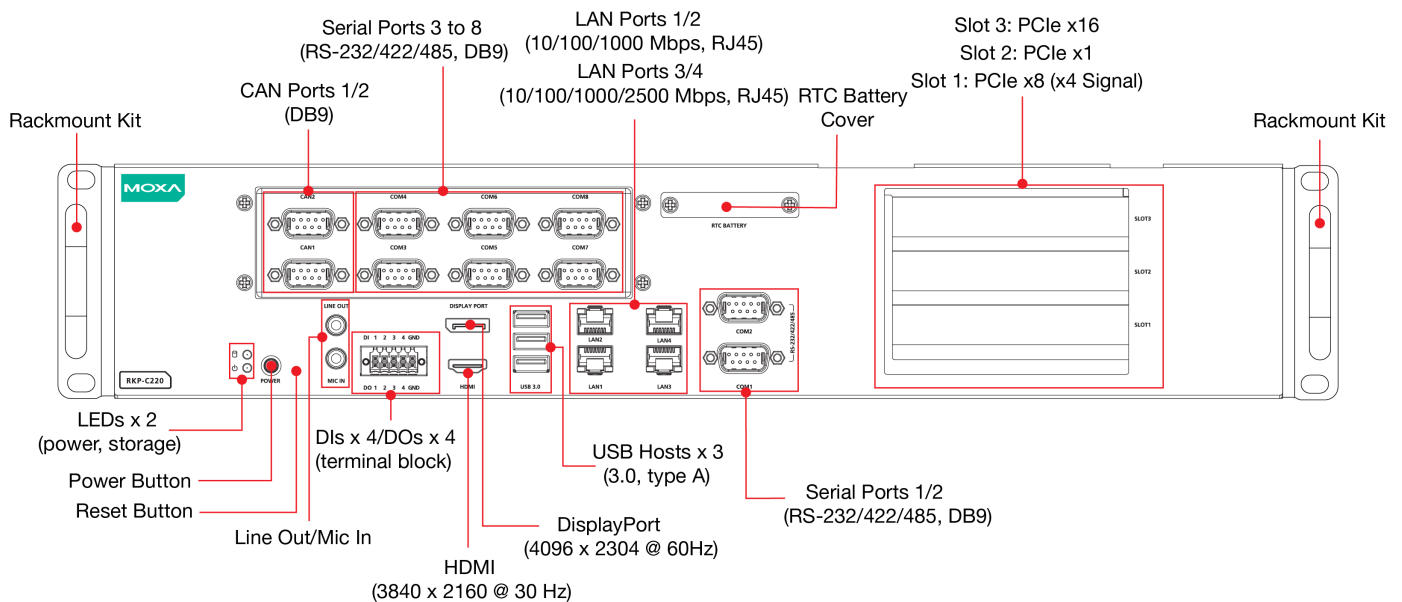
RKP-C220-C3-8C-T/ RKP-C220-C5-8C-T/ RKP-C220-C7-8C-T/ RKP-C220-C9-8C-T Models



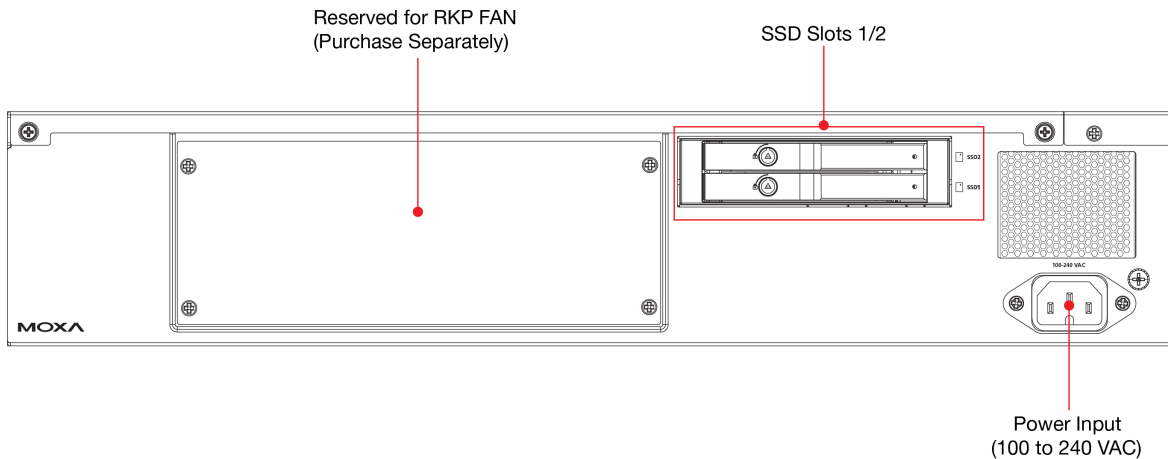
RKP-C220-C3-4L-T/ RKP-C220-C5-4L-T/ RKP-C220-C7-4L-T/ RKP-C220-C9-4L-T Models



RKP-C220-C3-2CB6C-T/ RKP-C220-C5-2CB6C-T/ RKP-C220-C7-2CB6C-T/ RKP-C220-C9-2CB6C-T Models



RearView



Specifications

Computer

CPU	RKP-C220-C9 models: Intel® Core™ i9-13900TE RKP-C220-C7 models: Intel® Core™ i7-13700TE RKP-C220-C5 models: Intel® Core™ i5-13500TE RKP-C220-C3 models: Intel® Core™ i3-13100TE
Chipset	Intel® Q670E
System Memory Slot	SODIMM DDR4 slots x 2, up to 64 GB max.
System Memory Pre-installed	8 GB DDR4
Storage Slot	2.5-inch SSD slot x 2 (SATA III interface, RAID 0/1 support) M.2 M Key 2280 socket x 1 (PCIe interface, NVMe support) M.2 M Key 2242 socket x 2 (PCIe interface, NVMe support, RAID 0/1 support)
Supported OS	OS images: - Windows 10 IoT Enterprise LTSC 2021 64-bit - Windows 11 IoT Enterprise LTSC 2024 64-bit - Windows 11 Professional 64-bit Windows drivers supported: - Windows 10 IoT Enterprise LTSC 2021 64-bit - Windows 11 IoT Enterprise LTSC 2024 64-bit - Windows 11 Professional 64-bit - Windows Server 2022 Linux driver supported: - Debian 12 (kernel 6.10) - Ubuntu 22.04 LTS/ HWE (kernel 5.15) - RHEL 9.0 (kernel 5.14)
Graphics Controller	i9, i7, and i5 processor: Intel® UHD Graphics 770 i3 processor: Intel® UHD Graphics 730

Computer Interface

Ethernet Ports	RKP-C220-C9-T/ RKP-C220-C7-T/ RKP-C220-C5-T/ RKP-C220-C3-T: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2 Auto-sensing 10/100/1000/2500 Mbps ports (RJ45 connector) x 2 RKP-C220-C9-4L-T/C7-4L-T/C5-4L-T/C3-4L-T: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6 Auto-sensing 10/100/1000/2500 Mbps ports (RJ45 connector) x 2
Serial Channels	RKP-C220-C9-T/ RKP-C220-C7-T/ RKP-C220-C5-T/ RKP-C220-C3-T: RS-232/RS-422/RS-485-2W/RS-485-4W ports x 2, software selectable (DB9 male) RKP-C220-C9-8C-T/C7-8C-T/C5-8C-T/C3-8C-T: RS-232/RS-422/RS-485-2W/RS-485-4W ports x 10, software selectable (DB9 male)

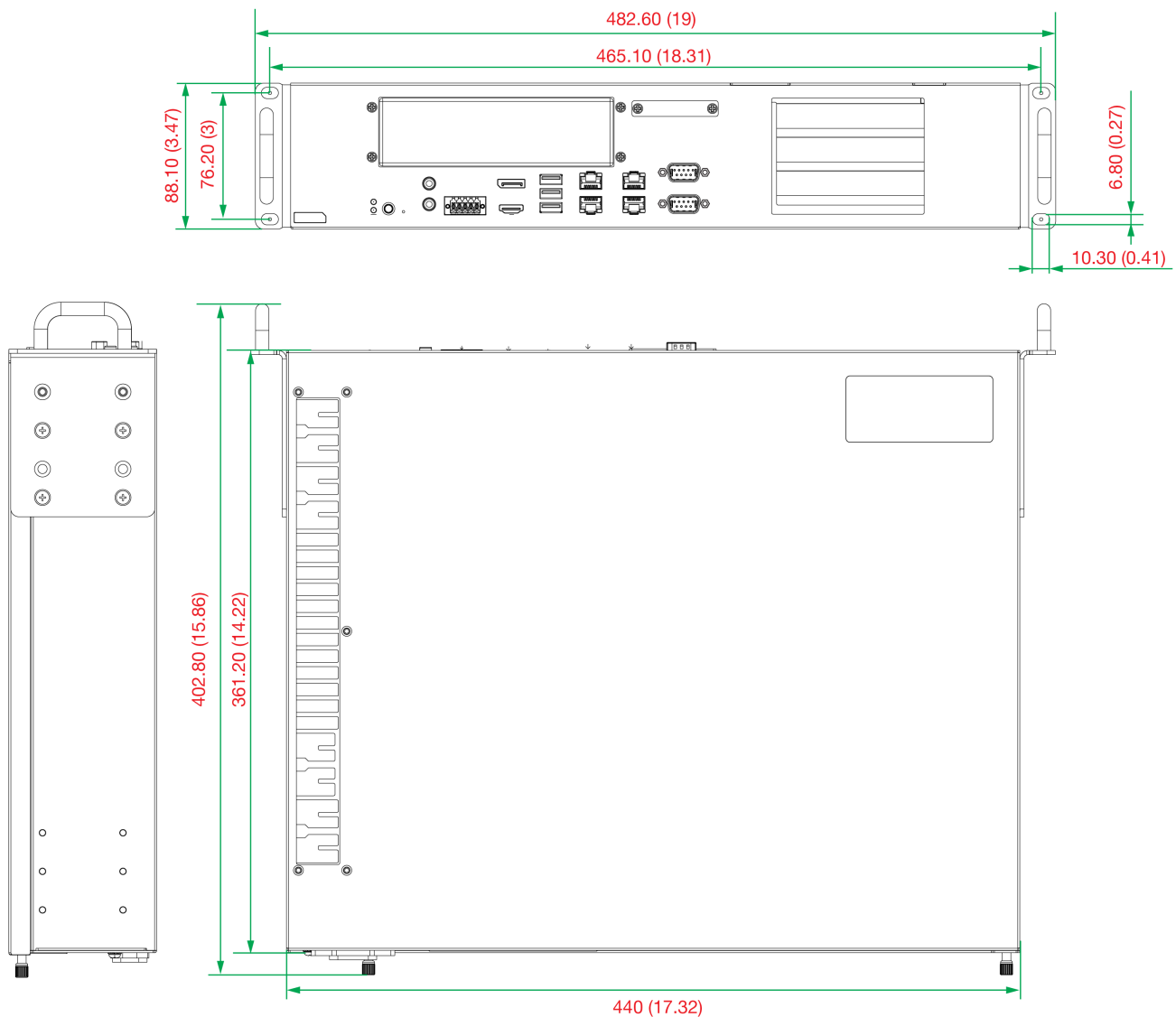
	RKP-C220-C9-2CB6C-T/C7-2CB6C-T/C5-2CB6C-T/C3-2CB6C-T: RS-232/RS-422/RS-485-2W/RS-485-4W ports x 8, software selectable (DB9 male)
CAN Ports	RKP-C220-C9-2CB6C-T/C7-2CB6C-T/C5-2CB6C-T/C3-2CB6C-T: CAN Ports x 2
Expansion Slots	PCIe x16 (Gen 4) slot x 1 PCIe x8 (4-lane, Gen 4) slot x 1 PCIe x1 (Gen 4) slot x 1
USB 3.0	External: USB 3.0 hosts x 3, type-A connector Internal: USB 3.0 hosts x 1, type-A connector
Digital Input	DIs x 4
Digital Output	DOs x 4
Audio Input/Output	Mic-in x 1, 3.5 mm audio jack Line-out x 1, 3.5 mm audio jack
Video Output	HDMI 2.0b x 1, (type-A connector) DisplayPort 1.2 x 1
Buttons	Reset button Power button
TPM	TPM v2.0
Ethernet Interface	
Magnetic Isolation Protection	1.5 kV (built-in)
Serial Interface	
Baudrate	50 bps to 115.2 kbps
Connector	DB9 male
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS, XON/XOFF
Serial Signals	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
Digital Inputs	
Connector	Spring-type Euroblock terminal
Sensor Type	Dry contact
Dry Contact	Logic 0: Short to GND Logic 1: Open
Digital Outputs	
Connector	Spring-type Euroblock terminal
I/O Type	Sink

Current Rating	200 mA per channel
Voltage	0 to 24 VDC
CAN Interface	
Connector	DB9 male
Protocols	CAN 2.0A CAN 2.0B
Signals	CAN_H, CAN_L, CAN_GND
Isolation	2 kV (built-in)
Power Parameters	
Input Voltage	100 to 240 VAC
Power Consumption	90 W (without graphics card)
Power Connector	IEC 60320 C16 inlet
Physical Characteristics	
Housing	Metal
IP Rating	IP20
Dimensions	440 x 360 x 88.1 mm (17.32 x 14.17 x 3.47 in)
Weight	RKP-C220-C9-T/C7-T/C5-T/C3-T: 8,913 g (19.65 lb) RKP-C220-C9-4L-T/C7-4L-T/C5-4L-T/C3-4L-T: 8,914 g (19.65 lb) RKP-C220-C9-8C-T/C7-8C-T/C5-8C-T/C3-8C-T: 9,196 g (20.27 lb) RKP-C220-C9-2CB6C-T/C7-2CB6C-T/C5-2CB6C-T/C3-2CB6C-T models: 9,062 g (19.98 lb)
Installation	Rack mounting (standard 2U)
Environmental Limits	
Operating Temperature	-30 to 60°C (-22 to 140°F) (without graphics card; refer to the graphics card operating temperature specification if applicable)
Storage Temperature	-40 to 70°C (-40 to 158°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A BSMI
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: Line-to-PE: 2 kV; Line-to-Line: 1 kV, Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF: 1 A/m at 50 to 60 Hz
Safety	UL 62368-1 (CB) BSMI

Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64
Package Drop Test	ISTA 1A
Package Vibration Test	ISTA 1A
Declaration	
Green Product	RoHS, CRoHS, WEEE
Reliability	
Time Source	Built-in RTC (real-time clock) with lithium-battery backup
Automatic Reboot Trigger	Built-in WDT
MTBF	
Time	RKP-C220-C9-T/C7-T/C5-T/C3-T: 1,168,494 hrs RKP-C220-C9-8C-T/C7-8C-T/C5-8C-T/C3-8C-T: 993,182 hrs RKP-C220-C9-4L-T/C7-4L-T/C5-4L-T/C3-4L-T: 1,101,194 hrs RKP-C220-C9-2CB6C-T/C7-2CB6C-T/C5-2CB6C-T/C3-2CB6C-T: 995,157 hrs hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x RKP-C220 Series computer
Installation Kit	2 x rack-mounting ears (with 12 screws) 1 x C15-to-C13 power cord 1 x 10-pin terminal block for DI/DO 2 x 2.5" SSD door keys 1 x memory thermal pad 2 x M.2 screws for mounting the SSDs
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	Memory (preinstalled)	Storage Slots	LAN/Serial	CAN Ports	USB 3.0	Power Input
RKP-C220-C3-T	Intel® Core™ i3-13100TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/2	–	3	100 to 240 VAC
RKP-C220-C3-4L-T	Intel® Core™ i3-13100TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	8/2	–	3	100 to 240 VAC
RKP-C220-C3-8C-T	Intel® Core™ i3-13100TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/10	–	3	100 to 240 VAC
RKP-C220-C3-2CB6C-T	Intel® Core™ i3-13100TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/8	2	3	100 to 240 VAC
RKP-C220-C5-T	Intel® Core™ i5-13500TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/2	–	3	100 to 240 VAC
RKP-C220-C5-4L-T	Intel® Core™ i5-13500TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	8/2	–	3	100 to 240 VAC

Model Name	CPU	Memory (preinstalled)	Storage Slots	LAN/Serial	CAN Ports	USB 3.0	Power Input
	i5-13500TE		1 x M.2 M Key 2280 2 X M.2 M Key 2242				
RKP-C220-C5-8C-T	Intel® Core™ i5-13500TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/10	–	3	100 to 240 VAC
RKP-C220-C5-2CB6C-T	Intel® Core™ i5-13500TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/8	2	3	100 to 240 VAC
RKP-C220-C7-T	Intel® Core™ i7-13700TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/2	–	3	100 to 240 VAC
RKP-C220-C7-4L-T	Intel® Core™ i7-13700TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	8/2	–	3	100 to 240 VAC
RKP-C220-C7-8C-T	Intel® Core™ i7-13700TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/10	–	3	100 to 240 VAC
RKP-C220-C7-2CB6C-T	Intel® Core™ i7-13700TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/8	2	3	100 to 240 VAC
RKP-C220-C9-T	Intel® Core™ i9-13900TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/2	–	3	100 to 240 VAC
RKP-C220-C9-4L-T	Intel® Core™ i9-13900TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	8/2	–	3	100 to 240 VAC
RKP-C220-C9-8C-T	Intel® Core™ i9-13900TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/10	–	3	100 to 240 VAC
RKP-C220-C9-2CB6C-T	Intel® Core™ i9-13900TE	8 GB	2 x 2.5" SSD 1 x M.2 M Key 2280 2 X M.2 M Key 2242	4/8	2	3	100 to 240 VAC

Accessories (sold separately)

Thermal Kits

HS-M.2 2280-RKP-C220

HS-M.2 2280-RKP-C220

Fan Modules

RKP-FAN

RKP-FAN

© Moxa Inc. All rights reserved. Updated Oct 29, 2025.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.