

RKP-C110 Series

Rackmount computers with 11th Gen Intel® Core™ Tiger Lake processor base model and high-interface models



Features and Benefits

- 1U rackmount computer with fanless design
- 11th Gen Intel® Celeron®, or Intel® Core™ i5 or i7 processor
- Rich interface options for up to 12 LAN ports and up to 10 serial ports
- Standard form factor that fits most field applications
- Unified front-panel connectivity design for easy access of interfaces
- -30 to 60°C operating temperature range

Certifications



Introduction

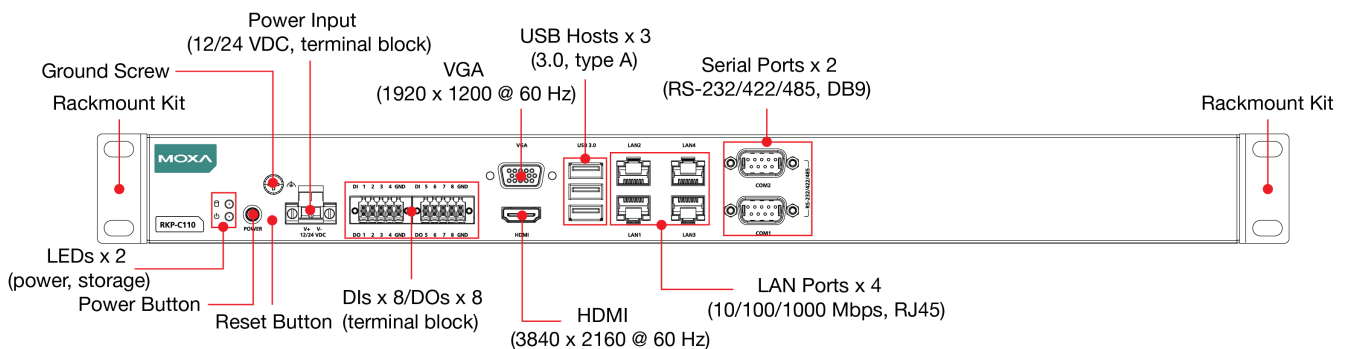
The RKP-C110 rackmount computers are powered by 11th Gen Intel® Celeron®, or Intel® Core™ i5 or i7 processor. The computers come with a rich set of interface options including up to up to 12 Gigabit Ethernet ports, 10 software-selectable RS-232/422/485 serial ports, and 8 digital inputs and 8 digital outputs. The communication interfaces are all located on the front panel for enabling easy access and convenient expansion for industrial applications. Two hand-rotated 2.5" SSD storages and an outer replaceable RTC battery design deliver a reliable, durable, and versatile platform for a more user-friendly option.

Designed as 1U standard form factor fanless rackmount computers with an operating temperature range of -30 to 60°C and a build-in TPM 2.0 module, the RKP-C110 computers are ideal as reliable and secure computing platforms for industrial applications in extreme operating environments.

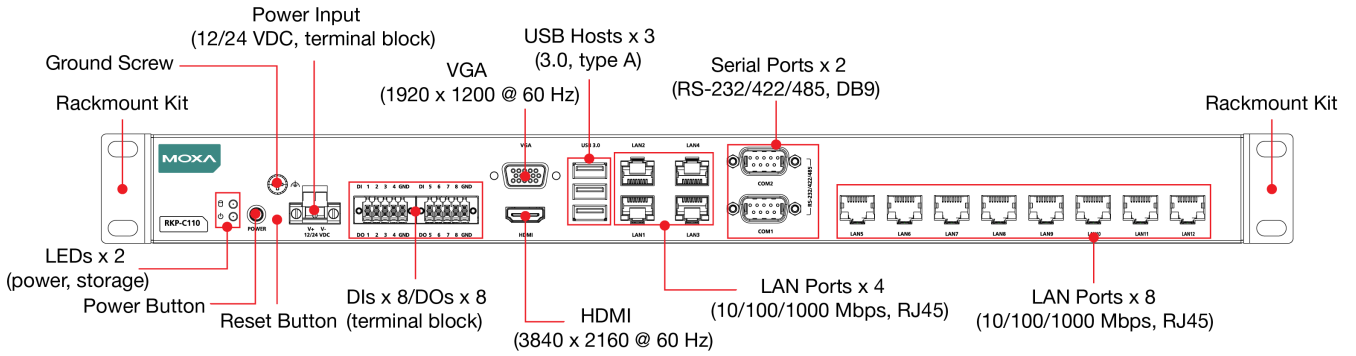
Appearance

Front View

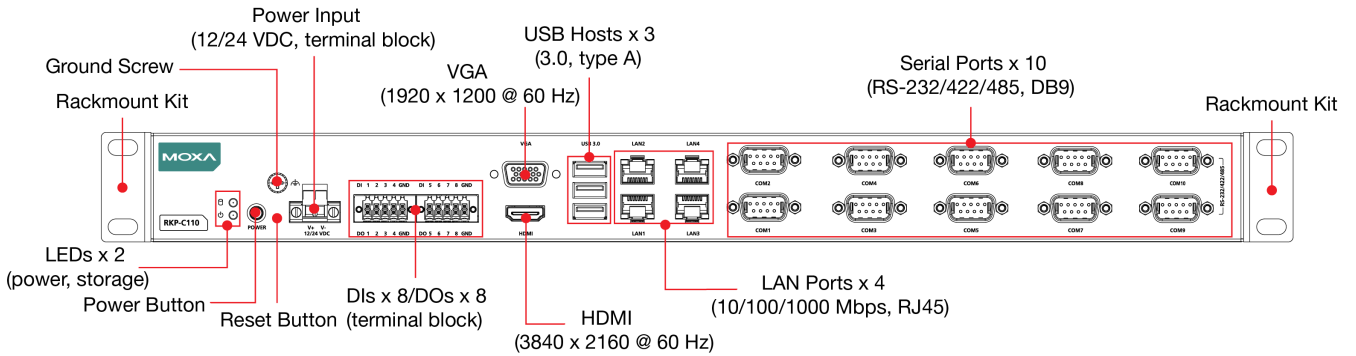
RKP-C110-C1-T/C5-T/C7-T/C1-T-Win10/C5-T-Win10/C7-T-Win10 Models



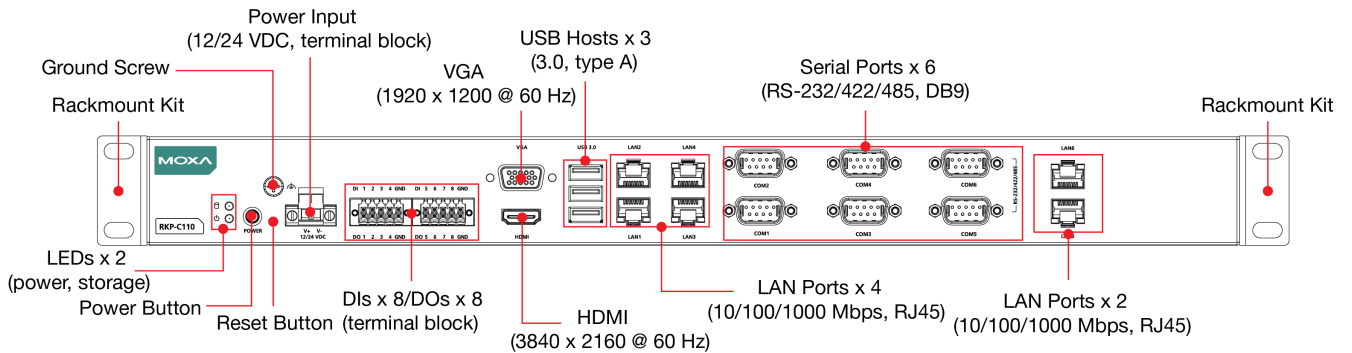
RKP-C110-C1-8L-T/C5-8L-T/C7-8L-T Models



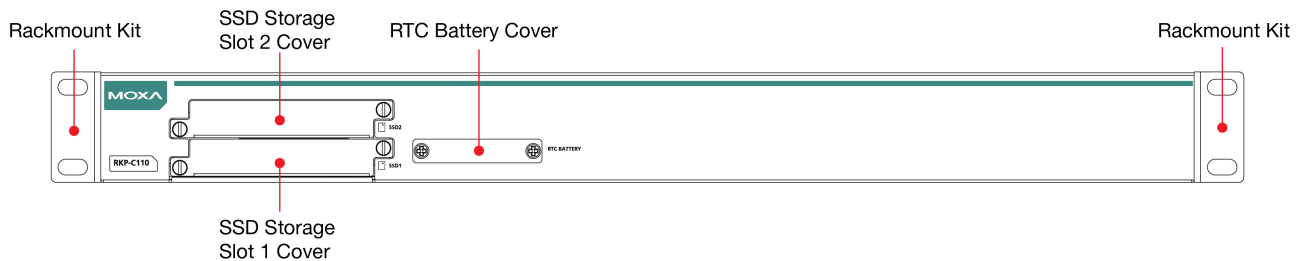
RKP-C110-C1-8C-T/C5-8C-T/C7-8C-T Models



RKP-C110-C1-2L4C-T/C5-2L4C-T/C7-2L4C-T Models



RearView



Specifications

Computer

| | |
|-----------------------------|---|
| CPU | RKP-C110-C1 Series: Intel® Celeron® 6305E "(Dual core, 4M cache, 1.80 GHz) RKP-C110-C5 Series: Intel® Core™ Processor i5-1145G7E (Quad core, 8M cache, 2.60 GHz, Base:1.50 GHz) RKP-C110-C7 Series: Intel® Core™ Processor i7-1185G7E (Quad core, 12M cache, 2.80 GHz, Base:1.80 GHz) |
| System Memory Slot | SODIMM DDR4 slots x 1, up to 32 GB max. |
| System Memory Pre-installed | 8 GB DDR4 |
| Storage Slot | 2.5-inch SSD slots x 2 (SATAIII interface) RAID 0/1 support |
| Storage Pre-installed | 8 GB |
| Supported OS | Windows Images and Drivers Supported: - Windows 10 IoT Ent LTSC 2021 64-bit - Windows 11 Professional 64-bit Linux Drivers Supported: - Debian 11 (Kernel 5.10) - Ubuntu 22.04 LTS (Kernel 5.15) - RHEL 9 (Kernel 5.14) |
| Graphics Controller | Intel® UHD Graphics |

Computer Interface

| | |
|----------------|--|
| Ethernet Ports | RKP-C110-C1-8L-T/C5-8L-T/C7-8L-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 12 RKP-C110-C1-2L4C-T/C5-2L4C-T/C7-2L4C-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6 All Other Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4 |
| Serial Ports | RKP-C110-C1-8C-T/C5-8C-T/C7-8C-T Models: RS-232/422/485 ports x 10, software selectable (DB9 male) RKP-C110-C1-2L4C-T/C5-2L4C-T/C7-2L4C-T Models: RS-232/422/485 ports x 6, software selectable (DB9 male) All Other Models: RS-232/422/485 ports x 2, software selectable (DB9 male) |
| USB 3.0 | USB 3.0 hosts x 3, type-A connectors |
| Digital Input | DIs x 8 |
| Digital Output | DOs x 8 |
| TPM | TPM v2.0 |
| Video Output | HDMI 2.0b x 1, (type A connector) VGA x 1, 15-pin D-sub connector (female) |
| Buttons | Reset button Power button |

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 |
| LED Indicators | |
| System | Power x 1 Storage x 1 |
| LAN | 2 per port (10/100/1000 Mbps) |
| Power Parameters | |
| Input Voltage | 12/24 VDC |
| Power Connector | Screw-fastened Euroblock terminal |
| Power Consumption | 90 W |
| Physical Characteristics | |
| Housing | Metal |
| IP Rating | IP20 |
| Dimensions | 440 x 230 x 43.6 mm (17.32 x 9.06 x 1.72 in) |
| Weight | RKP-C110-C1-8C-T/C5-8C-T/C7-8C-T Models: 3,610 g (7.95 lb) RKP-C110-C1-2L4C-T/C5-2L4C-T/C7-2L4C-T Models: 3,540 g (7.80 lb) RKP-C110-C1-8L-T/C5-8L-T/C7-8L-T Models: 3,800 g (8.37 lb) RKP-C110-C1-T/C5-T/C7-T/C1-T-Win10/C5-T-Win10/C7-T-Win10 Models: 3,350 g (7.38 lb) |
| Installation | Rack mounting (standard 1U) |

Environmental Limits

| | |
|---------------------------|----------------------------|
| Operating Temperature | -30 to 60°C (-22 to 140°F) |
| Storage Temperature | -40 to 75°C (-40 to 167°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: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 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 | 493,336 hrs |
| Standards | Telcordia (Bellcore), GB |

Warranty

| | |
|-----------------|--|
| Warranty Period | 3 years |
| Details | See www.moxa.com/warranty |

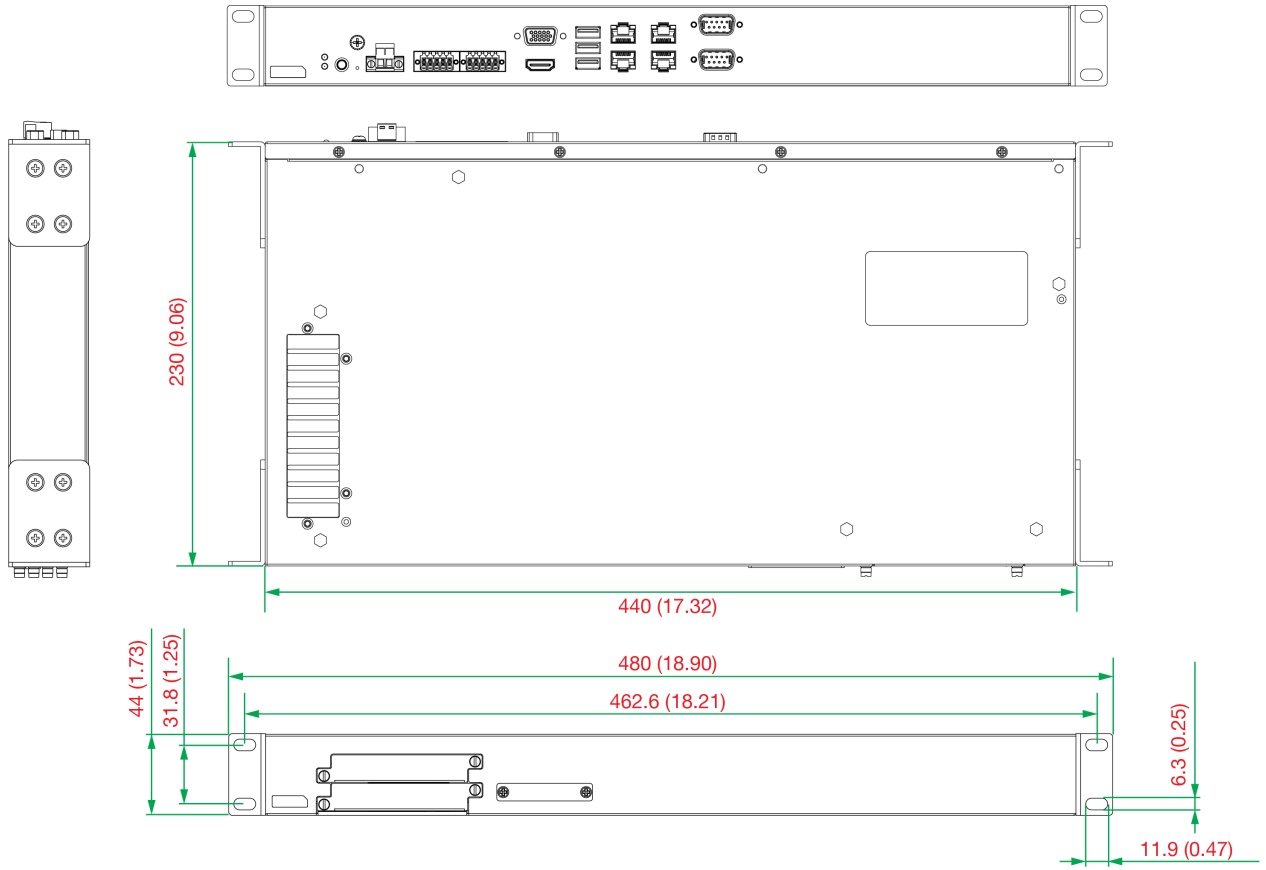
Package Contents

| | |
|------------------|--|
| Device | 1 x RKP-C110 Series computer with rack-mounting ears installed |
| Installation Kit | 1 x terminal block, 2-pin, for DC power 2 x terminal block, 10-pin, for DIs/DOs |
| Documentation | 1 x quick installation guide 1 x warranty card |

Dimensions

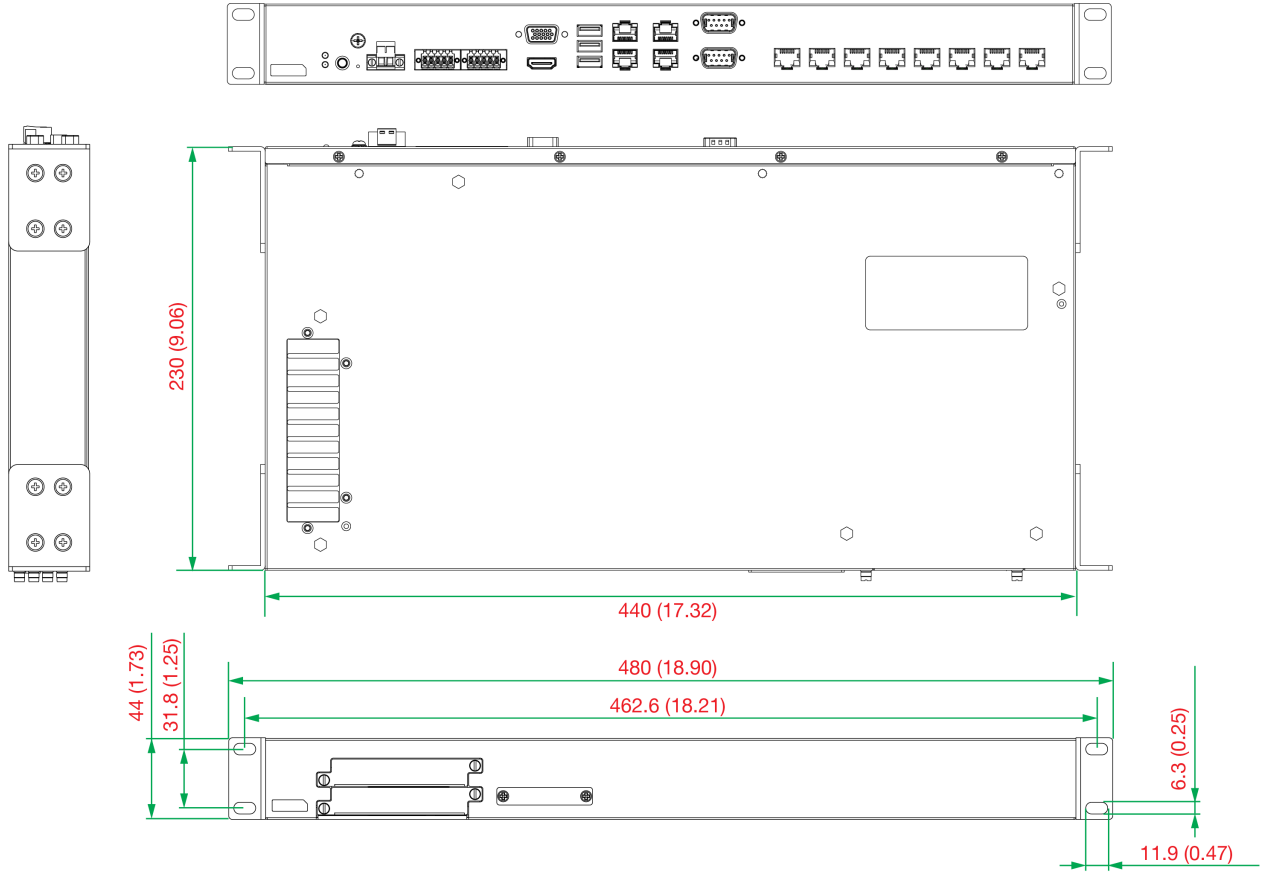
RKP-C110-C1-T/C5-T/C7-T/C1-T-Win10/C5-T-Win10/C7-T-Win10 Models

Unit: mm (inch)



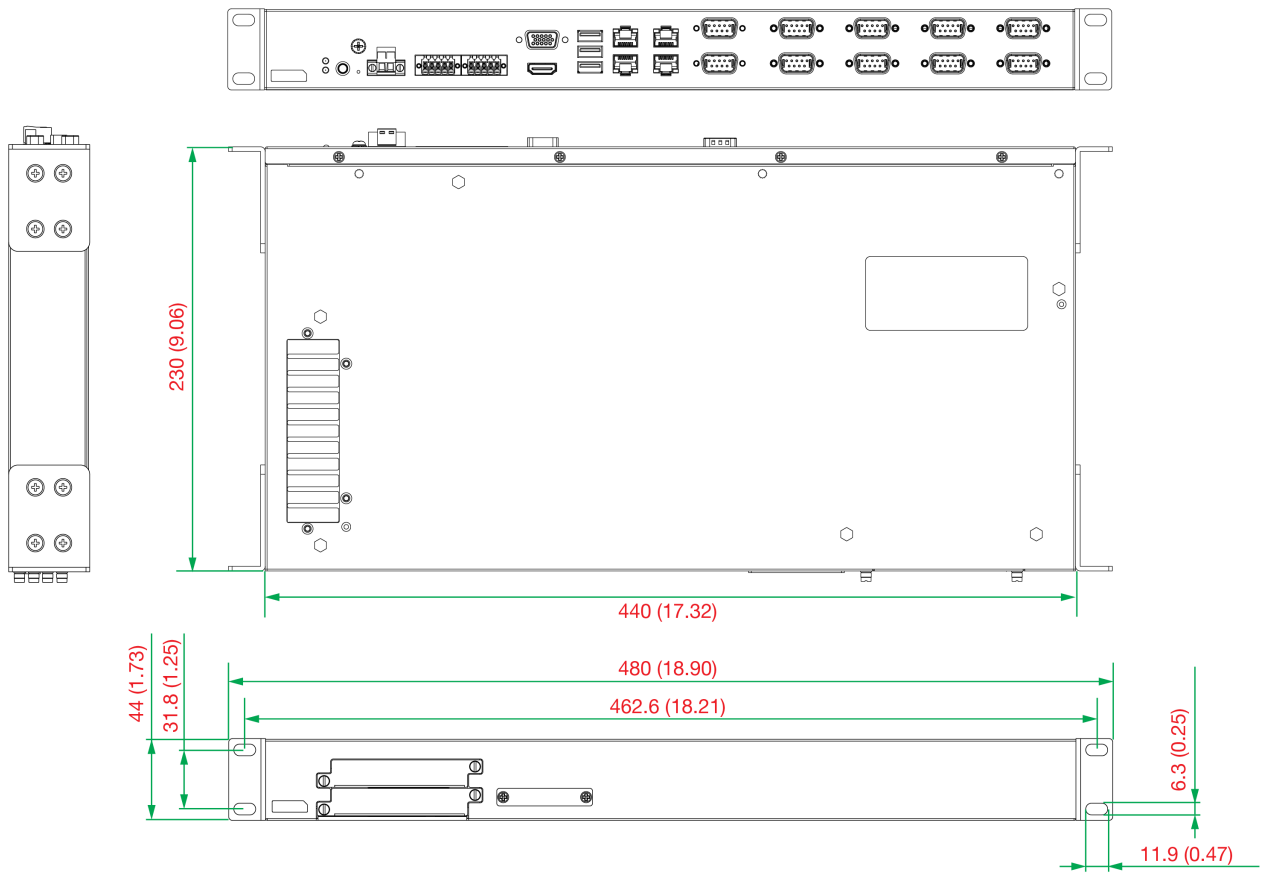
RKP-C110-C1-8L-T/C5-8L-T/C7-8L-T Models

Unit: mm (inch)



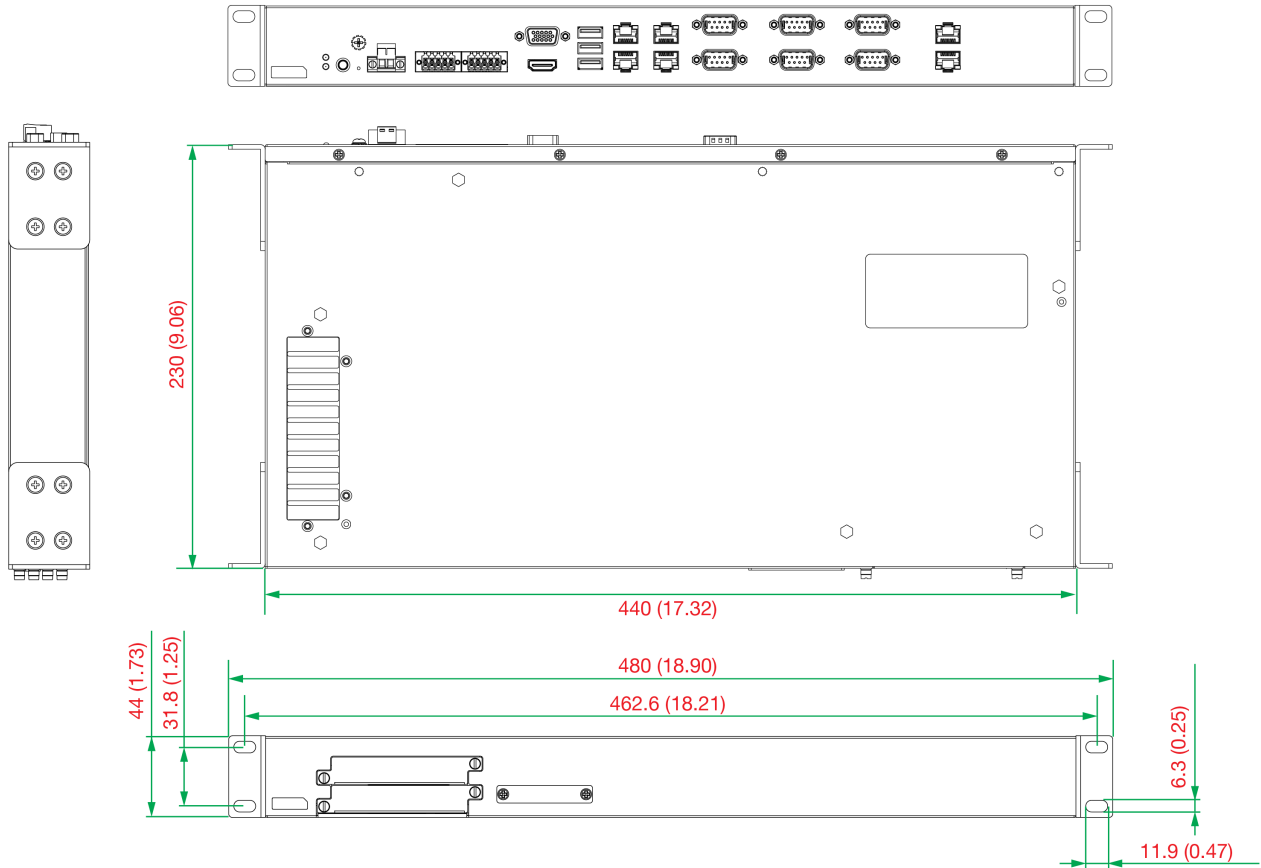
RKP-C110-C1-8C-T/C5-8C-T/C7-8C-T Models

Unit: mm (inch)



RKP-C110-C1-2L4C-T/C5-2L4C-T/C7-2L4C-T Models

Unit: mm (inch)



Ordering Information

| Model Name | CPU | RAM | Storage Slots | OS Preinstalled | LAN/Serial | USB 3.0 | DIs/DOs | Video Outputs | Power Input |
|---------------------|------------------------|------|---------------|-------------------------|------------|---------|--------------------|---------------------|-------------|
| RKP-C110-C1-T | Intel® Celeron® 6305E | 8 GB | 2 x 2.5" SSD | - | 4/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C1-T-Win10 | Intel® Celeron® 6305E | 8 GB | 2 x 2.5" SSD | Win 10 LTSC (64 GB SSD) | 4/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C1-8L-T | Intel® Celeron® 6305E | 8 GB | 2 x 2.5" SSD | - | 12/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C1-8C-T | Intel® Celeron® 6305E | 8 GB | 2 x 2.5" SSD | - | 4/10 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C1-2L4C-T | Intel® Celeron® 6305E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C5-T | Intel® Core™ i5-145G7E | 8 GB | 2 x 2.5" SSD | - | 4/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C5-T-Win10 | Intel® Core™ i5-145G7E | 8 GB | 2 x 2.5" SSD | Win 10 LTSC (64 GB SSD) | 4/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C5-8L-T | Intel® Core™ i5-145G7E | 8 GB | 2 x 2.5" SSD | - | 12/2 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |

| Model Name | CPU | RAM | Storage Slots | OS Preinstalled | LAN/Serial | USB 3.0 | DIs/ DOs | Video Outputs | Power Input |
|---------------------|------------------------|------|---------------|-----------------|------------|---------|--------------------|---------------------|-------------|
| RKP-C110-C5-8C-T | Intel® Core™ i5-145G7E | 8 GB | 2 x 2.5" SSD | - | 4/10 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C5-2L4C-T | Intel® Core™ i5-145G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C7-T | Intel® Core™ i7-185G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C7-T-Win10 | Intel® Core™ i7-185G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C7-8L-T | Intel® Core™ i7-185G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C7-8C-T | Intel® Core™ i7-185G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |
| RKP-C110-C7-2L4C-T | Intel® Core™ i7-185G7E | 8 GB | 2 x 2.5" SSD | - | 6/6 | 3 | 8 x DIs 8 x DOs | 1 x VGA 1 x HDMI | 12/24 VDC |

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