

# RKP-A110 Series

Rackmount 1U computers with Elkhart Lake Intel Atom® X Series processor base model and high-interface models



## Features and Benefits

- 1U rackmount computer with fanless design
- Intel Atom® X Series 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

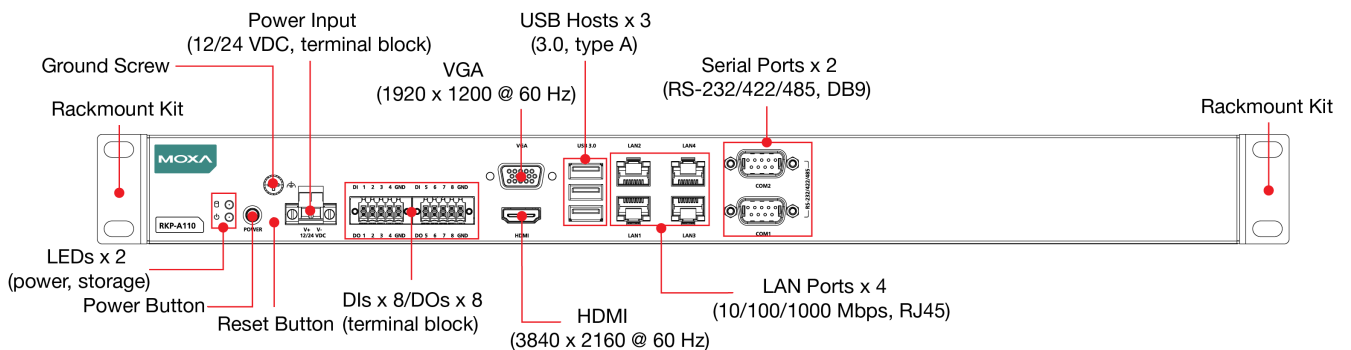
The RKP-A110 rackmount computers are powered by an Intel Atom® X Series processor. The computers come with a rich set of interface options including up to 12 gigabit Ethernet ports, 10 software-selectable RS-232/422/485 serial ports, and 8 digital inputs and 8 digital outputs. The communication interfaces are all located on the front panel, enabling easy access and convenient expansion for industrial applications. Two hand-rotated 2.5" SSD storage drives and an external replaceable RTC battery design deliver a reliable, durable, and versatile yet user-friendly computing platform.

Designed as 1U fanless rackmount computers with an operating temperature range of -30 to 60°C and a build-in TPM 2.0 module, the RKP-A110 computers are ideal as secure and reliable computing platforms for industrial applications in extreme operating environments.

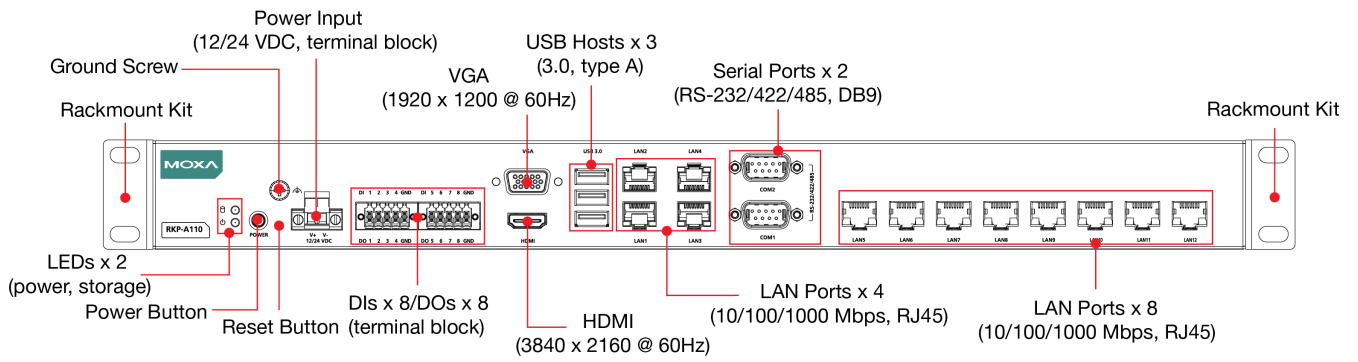
## Appearance

### Front View

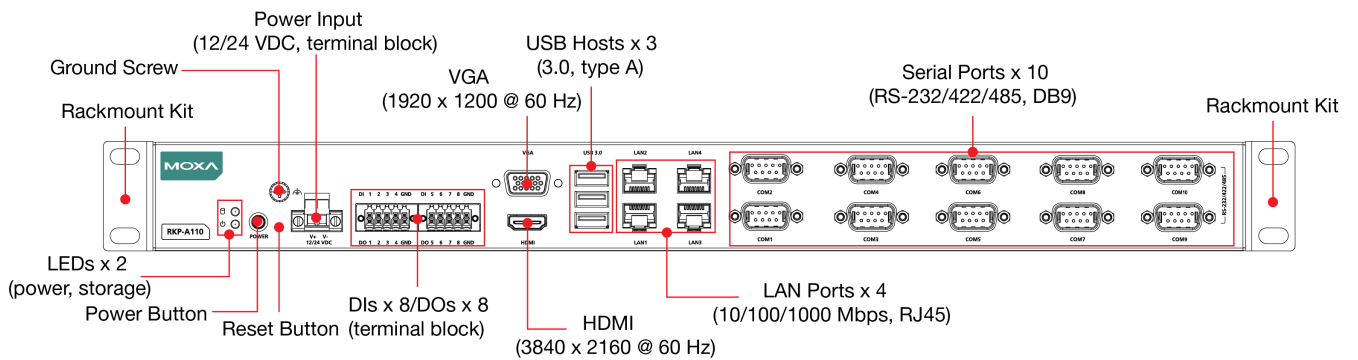
#### RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models



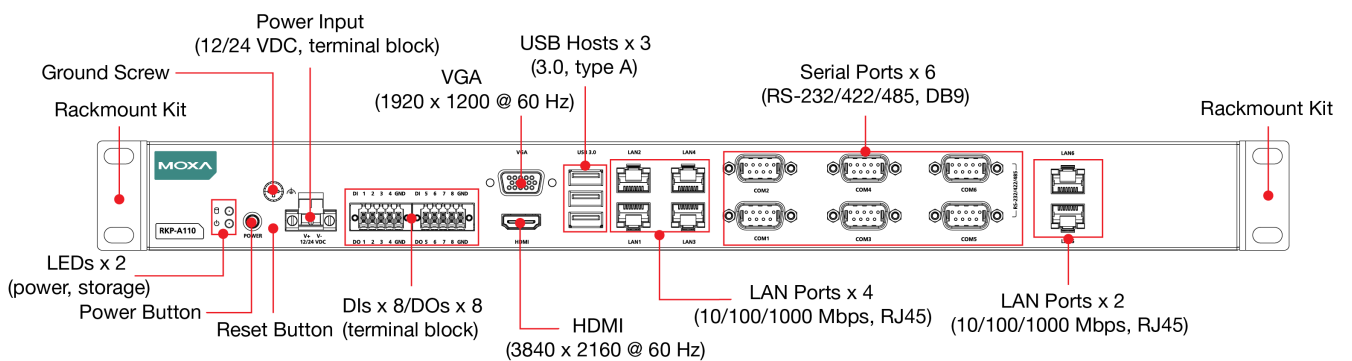
## RKP-A110-E2-8L-T/A110-E4-8L-T Models



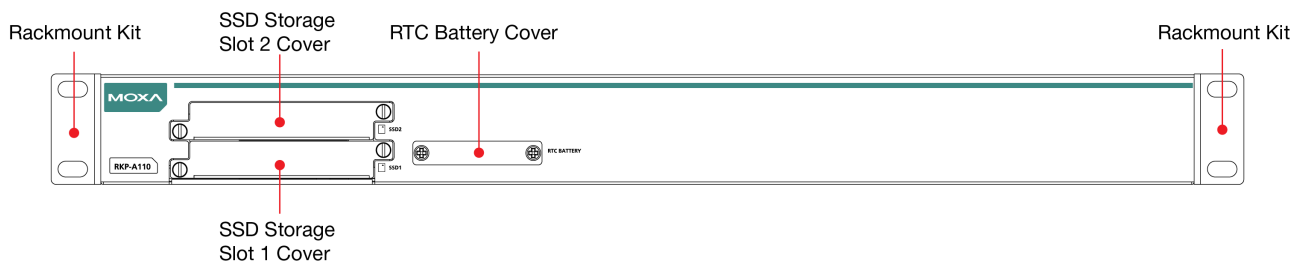
## RKP-A110-E2-8C-T/A110-E4-8C-T Models



## RKP-A110-E2-2L4C-T/E4-2L4C-T Models



## RearView



## Specifications

### Computer

CPU	RKP-A110-E2 Models: Intel Atom® x6211E processor (Dual core, 1.5M cache, 1.30 GHz) RKP-A110-E4 Models: Intel Atom® x6425E processor (Quad core, 1.5M cache, 2.00 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)
Storage Pre-installed	RKP-A110-E2-T-Win10/E4-T-Win10: 64 GB SSD
Supported OS	Windows Images and Drivers Supported: - Windows 10 IoT Enterprise 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-A110-E2-8L-T/E4-8L-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 12 RKP-A110-E2-2L4C-T/E4-2L4C-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6 RKP-A110-E2-T/E4-T/E2-8C-T/E4-8C-T/E2-T-Win10/E4-T-Win10 Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4
Serial Ports	RKP-A110-E2-8C-T/E4-8C-T Models: RS-232/422/485 ports x 10, software selectable (DB9 male) RKP-A110-E2-2L4C-T/4-2L4C-T Models: RS-232/422/485 ports x 6, software selectable (DB9 male) RKP-A110-E2-T/E4-T/E2-8L-T/E4-8L-T/E2-T-Win10/E4-T-Win10 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)
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### 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
<b>Serial Signals</b>	
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
<b>Digital Inputs</b>	
Connector	Spring-type Euroblock terminal
Sensor Type	Dry contact
Dry Contact	Logic 0: Short to GND Logic 1: Open
<b>Digital Outputs</b>	
Connector	Spring-type Euroblock terminal
I/O Type	Sink
Current Rating	200 mA per channel
Voltage	0 to 24 VDC
<b>LED Indicators</b>	
System	Power x 1 Storage x 1
LAN	2 per port (10/100/1000 Mbps)
<b>Power Parameters</b>	
Input Voltage	12/24 VDC
Power Connector	Screw-fastened Euroblock terminal
Power Consumption	50 W
<b>Physical Characteristics</b>	
Housing	Metal
IP Rating	IP20
Dimensions	440 x 230 x 43.6 mm (17.32 x 9.06 x 1.72 in)
Weight	RKP-A110-E2-8C-T/E4-8C-T/E2-2L4C-T/E4-2L4C-T Models: 3,520 g (7.76 lb) RKP-A110-E2-8L-T/E4-8L-T Models: 3,510 g (7.74 lb) RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models: 3,330 g (7.34 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
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## Reliability

Time Source	Built-in RTC (real-time clock) with lithium-battery backup
Automatic Reboot Trigger	Built-in WDT

## MTBF

Time	465,664 hrs
Standards	Telcordia (Bellcore), GB

## Warranty

Warranty Period	3 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

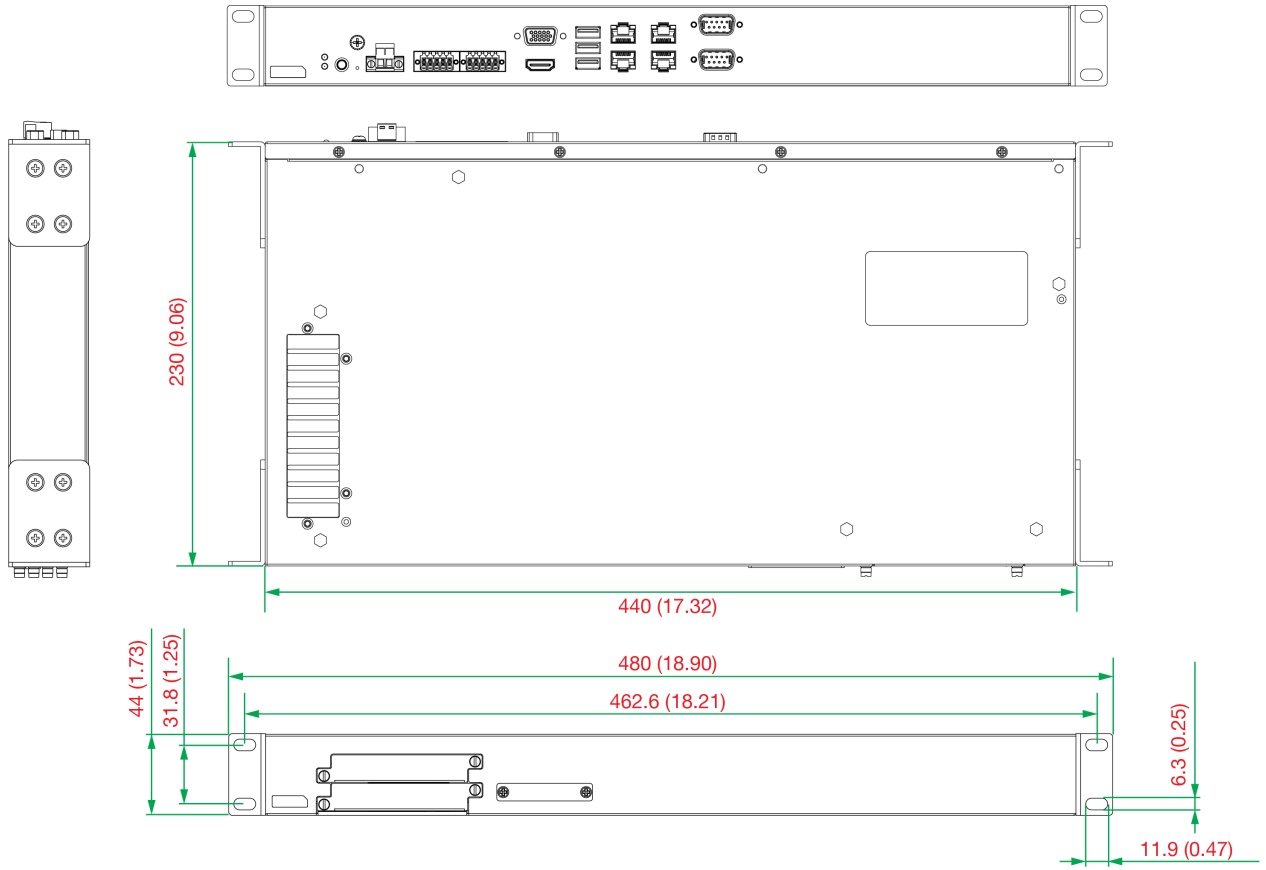
## Package Contents

Device	1 x RKP-A110 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

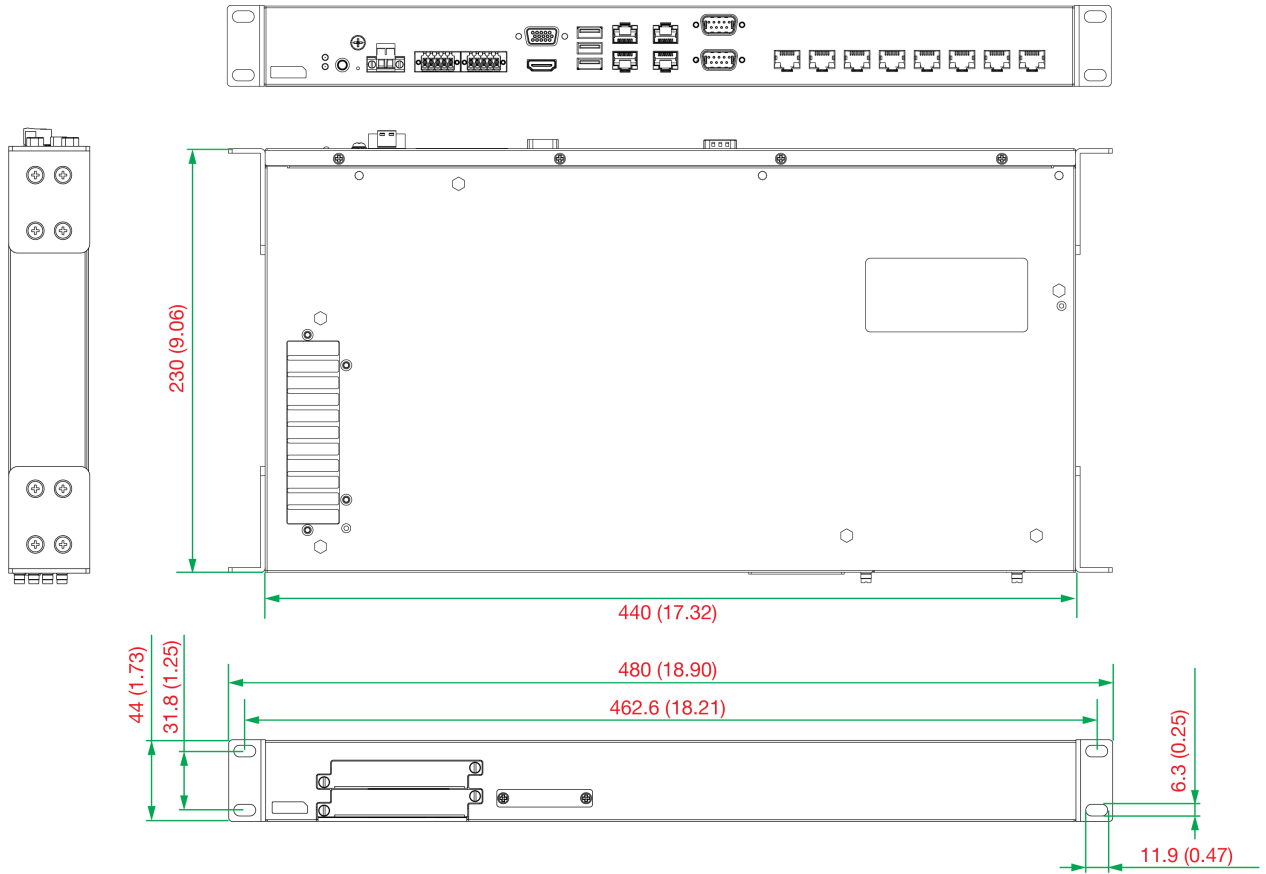
## RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models

Unit: mm (inch)



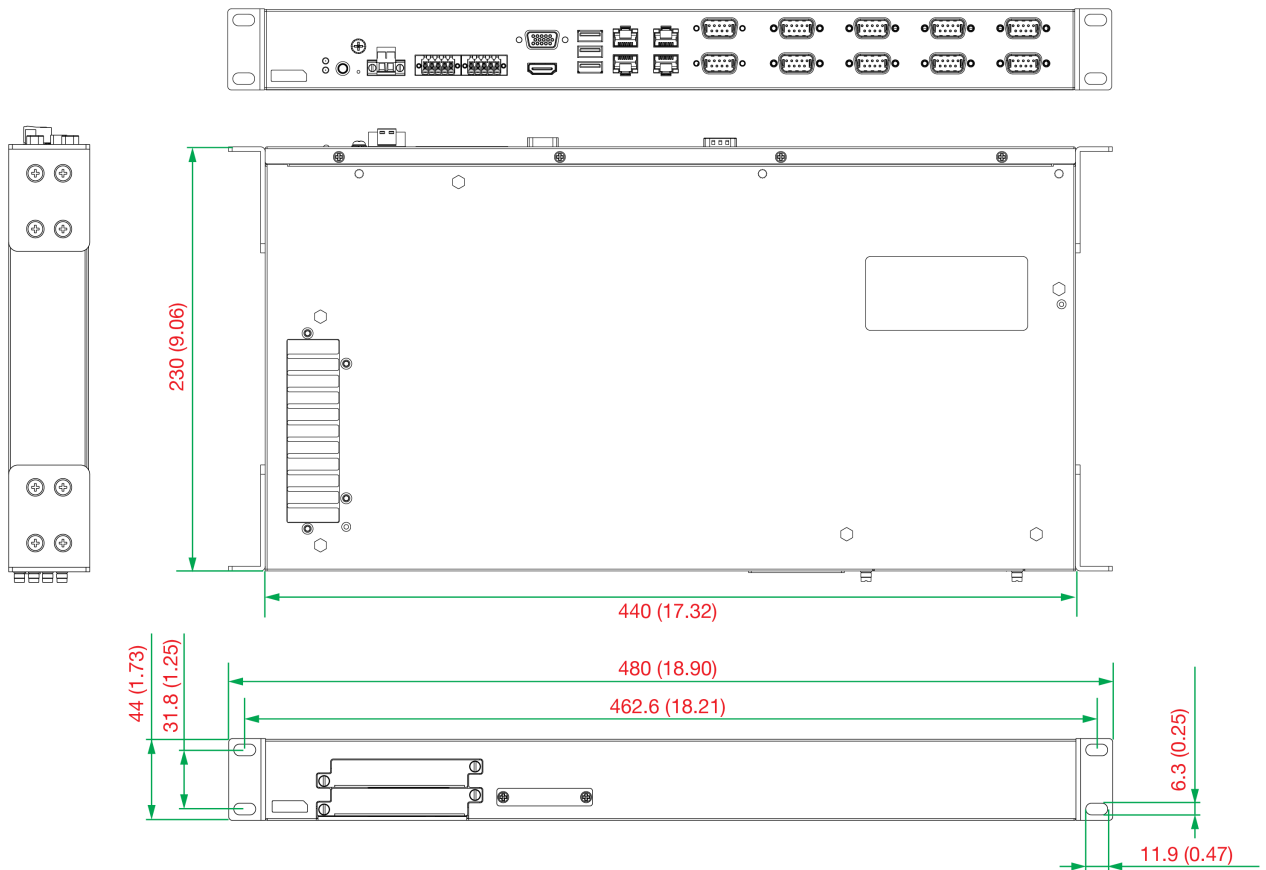
## RKP-A110-E2-8L-T/A110-E4-8L-T Models

Unit: mm (inch)



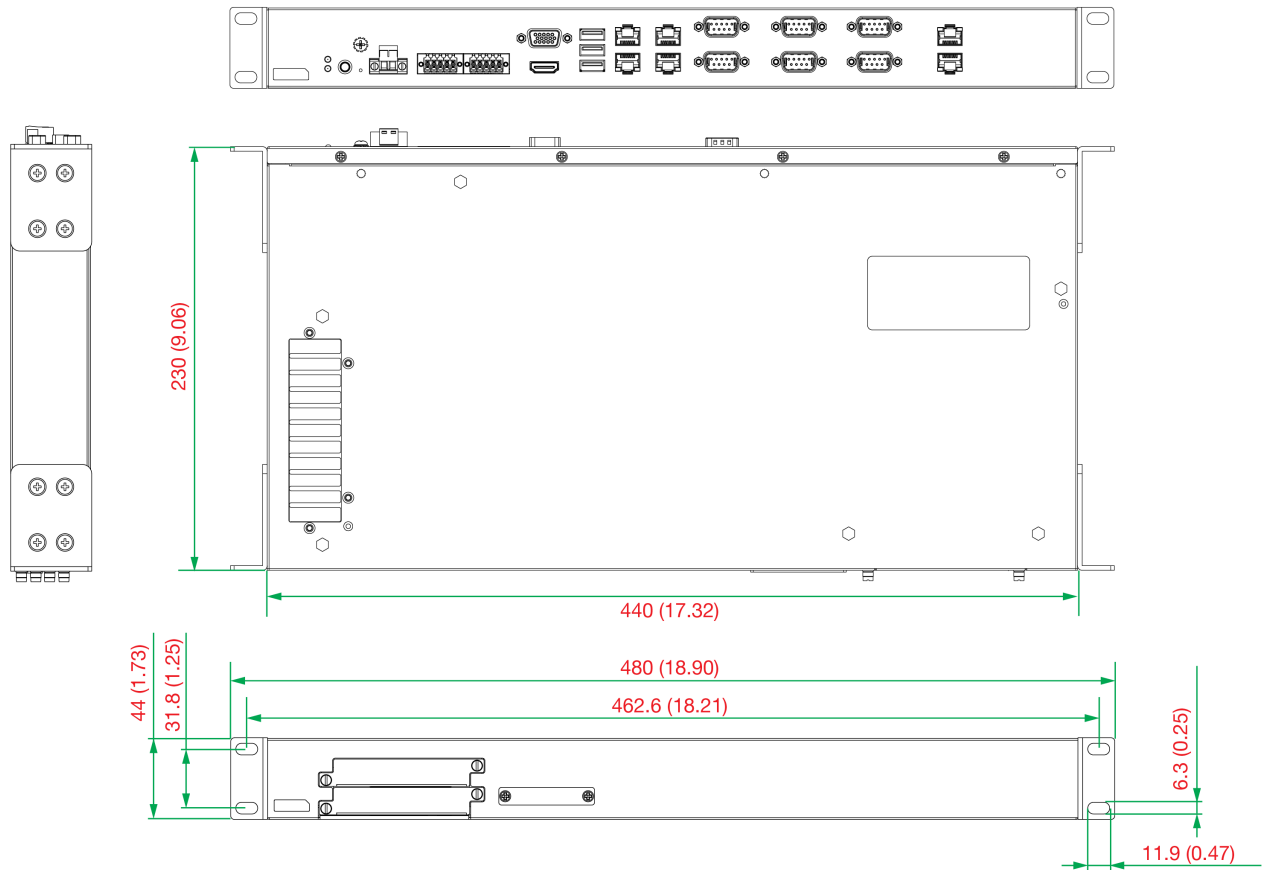
## RKP-A110-E2-8C-T/A110-E4-8C-T Models

Unit: mm (inch)



## RKP-A110-E2-2L4C-T/E4-2L4C-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-A110-E2-T	Intel Atom® x6211E	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-A110-E2-T-Win10	Intel Atom® x6211E	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-A110-E2-8L-T	Intel Atom® x6211E	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-A110-E2-8C-T	Intel Atom® x6211E	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-A110-E2-2L4C-T	Intel Atom® x6211E	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-A110-E4-T	Intel Atom® x6425E	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-A110-E4-T-Win10	Intel Atom® x6425E	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-A110-E4-8L-T	Intel Atom® x6425E	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-A110-E4-8C-T	Intel Atom® x6425E	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-A110-E4-2L4C-T	Intel Atom® x6425E	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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